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A Quarterly Journal of Maritime History and Arts

Volume 56, No. 2

Spring, 1996

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COVER ILLUSTRATION

William Alister MacDonald (1861–1956)

The Schooner* Pilgrim, *in Papeete Harbor, Tahiti, 1933
Watercolor
14½" x 10¾"

This painting was presented to Donald Starr, the owner, as a remembrance by a fellow yachtsman, whom Starr had assisted with his boat while they were both at Papeete, Tahiti.

The painting also serves as the basis of the jacket for Starr's account of *The Schooner* Pilgrim*'s Progress*, Special Supplement to the *American Neptune* for 1996, Volume 56.

Peabody Essex Museum Collection
Gift of Mrs. Donald C. (Polly) Starr

Peabody Essex Museum photograph by Jeffrey Dykes

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Contents

BRITON C. BUSCH

Editor-in-Chief's Note

April 18 of this year found many of us gathered in the conference room of The National Maritime Museum, Greenwich, England, to learn more about ship models in the age of sail. All present were of the opinion that such a novel meeting in such a great venue was bound to be first class, and indeed it was. At the end of the three-day conference, we all came away with an enhanced understanding of the historical complexities surrounding the purpose, making, and use of ship models.

The model of the ship is the theme of this editorial. *The American Neptune*, alive to the importance of such models past and present, seeks to publish more about the purpose or purposes of the ship model. Less concerned with what is built in miniature (and to what scale), we are of the opinion that much more needs to be explored about motives. As an inducement to prospective writers in this field, the publisher of *The Neptune* has offered an award to a worthy article on maritime modeling published in our pages. The Francis B. Lothrop Award stands beside parallel awards to be offered to successful candidates in the field of maritime arts, and for the best article published in the volume for that year. Particulars of this prize contest are published regularly in our pages. The large paid attendance for the Greenwich meeting was only one indicator of the very sizeable audience interested in maritime modeling.

The Greenwich conference coincided — or nearly so — with the publication of a very fine book on the subject, one that many will wish to have in their libraries. This is *Ship Models: Their Purpose and Development from 1650 to the Present*, (co-published by Zwemmer, 28 Lichfield Street, London WC2H 9NL, and Antique Collectors' Club, Market Street Industrial Park, Wappingers' Falls, NY 12590, ISBN 0-302-00654-0). What sets this book apart from many in the field is its remarkable joint authorship of Brian Lavery, Curator of Ship Technology at the National Maritime Museum, and Simon Stephens, veteran curator of the same museum's Ship Model Collection. The former has written about the ship-of-the-line and about Nelson. The latter has lectured and published on the subject, and is a ranking authority for the National Trust, the National Heritage Memorial Fund, and a number of shipping companies. Together, they have compiled a beautiful and comprehensive moderately sized compendium on the ship model, to which is appended the catalogue of the models held in the National Maritime Museum collection. In the catalogue, you will find listed a few gunboats, East Indiamen, clipper ships, colliers, oil tankers, and, of course, the great men-of-war that command so much attention and still capture our imagination.

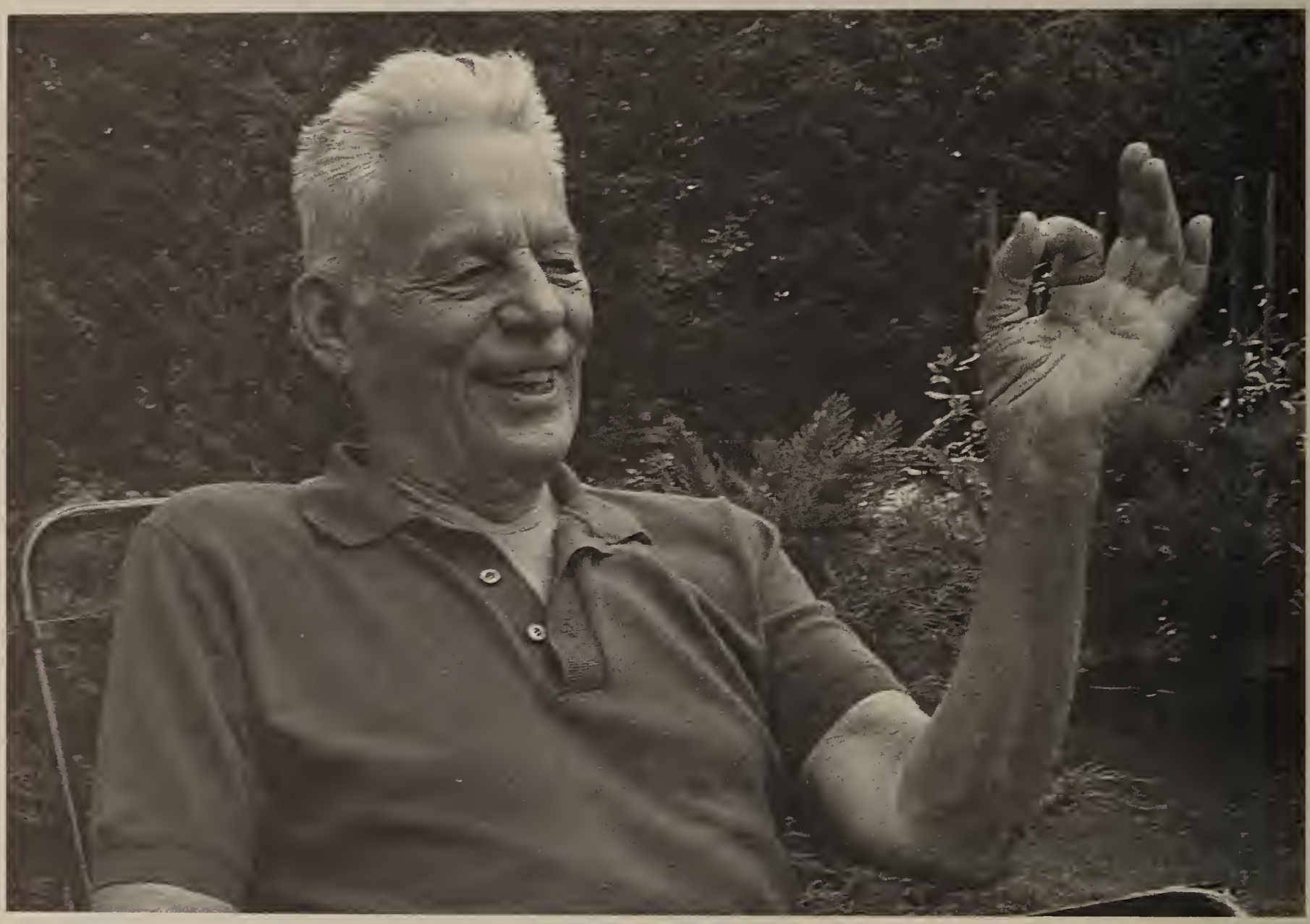
Why did people construct ship models in the classic era that is the focus of this work? The oldest reason, say the authors, was religion; ship models were placed in locations of worship and hope. Another reason was to commemorate a particular event or period. A seaman, for example, might make a model of his ship to remind him of service aboard. Many models have been presented for political purposes. Peter the Great, seeking ideas for a fleet, took to St. Petersburg a model of a great man-of-war. Yet another reason was advertising; shipping companies still display models to prospective users and passengers. In addition, models were employed as aids in building and designing ships. English Navy Board models could be expensive in their day, and nowadays rank as among the collector's most precious possession. Models were further used for decoration. Indeed, good ship models are subjects of pride and beauty. Ship models

were used to show inventions — double hulls or, say, retractable keels. A model could display how a ship might be reconstructed. Archaeologists use this method to their benefit. The *Mauritania* was used in the BBC series *The House of Elliot*. Lastly, models are made for the purpose of leisure, to sail in a pond or for sheer pleasure of actual construction. Naval architects and officers use models for training and tactics.

To the above list might be added others. At the Greenwich conference, one of the first questions raised from the floor was, "What about prisoner-of-war models?" These lovely bone models, particularly constructed by French prisoners, rank as among the great treasures of any collection. They have enduring fascination. They feature in a chapter of Lavery and Stephen's book, and they are not without considerable notice elsewhere. Altogether, *Ship Models from the Great Age of Sail, 1600–1850* brought together some of the most informed experts on the topic. The results were a prelude of what is to come in this field from Greenwich and elsewhere.

BARRY GOUGH
EDITOR-IN-CHIEF

The Francis B. Lothrop, Jr. 1996 Awards



The Peabody Essex Museum announces a new set of awards for 1996. To encourage authors to explore the varied aspects of maritime history and arts, there will be two new awards in addition to that for Best Article published in 1996:

- A prize for the best manuscript accepted for publication in the field of maritime arts.
- A prize for the best manuscript accepted for publication in the field of maritime modeling (in the words of our founders, *why* we make them, not *how*).

Winners will be announced in Volume 57, No. 1 of *The American Neptune*. For a copy of the authors' guidelines, please contact the Publications Department, Peabody Essex Museum, East India Square, Salem, M 01970-3783, call (508) 745-1876, ext. 3172, or E-mail dori_phillips@pem.org.

Traditional Fishing Craft of the Tihamah and Southwestern Arabian Coast

EDWARD PRADOS

In the late 1940s and early 1950s, Richard LeBaron Bowen, Jr., a prolific chemical engineer, Arabist, and nautical researcher, published a series of articles in *The American Neptune* documenting the vessels, sailors, and maritime trade of the Arabian Peninsula.[1] Since Bowen conducted his research in Arabia, sweeping social, political, and economic changes have buffeted the region. The Persian Gulf, once the domain of camel caravans and roving Bedouins, now flaunts fleets of Mercedes-Benz automobiles and sprawling modern metropolises. Change has even affected the Peninsula's least-developed country, Yemen, located in southwestern Arabia. Fifty years ago, few Westerners had visited this isolated, mountainous country, and automobiles and telephones were virtually nonexistent. Today, Land Cruisers, cellular phones, and fax machines vie for the attentions of Yemen's Westernized elite.

The processes of modernization and nation building have eroded tradition and heritage throughout the Middle East; Yemen is no exception. Although tall, graceful, mud brick buildings are still prevalent, cinder block cells dominate the expanding cities of Yemen, which now claims one of the highest birthrates in the world. My field inquiry, carried on in 1993–94 and funded by a Fulbright Grant, was designed to assess the impact that change and modernity have had upon one sector of Yemeni society: traditional maritime culture and technology.

I conducted research along Yemen's two coasts: the Tihamah, the coastal plain that flanks the Red Sea, and the southern seaboard, which borders the Gulf of Aden. Both coasts are extremely hot, windy, and dusty, and stand in distinct contrast to the more temperate, rugged interior. In the Tihamah, which has been strongly shaped by East African influences, local craftsmen practice trades such as pottery, basketry, weaving, and boatbuilding. Indian, Indonesian, and African influences have shaped the sparsely populated barren southern coast, whose inhabitants maintained trading ties throughout the Indian Ocean littoral. In the Tihamah, there are five major boatbuilding centers. Along the southern coast, however, I met only one shipwright, at Ma'alla, Aden, who continued to engage in wooden boatbuilding. Although I was not able to traverse a remote section of the southern Yemeni coast east of Sayhut, it is unlikely that wooden boatbuilding is still practiced there. Comments by local inhabitants, the writings of noted Yemeni scholar Robert Stookey, and the difficulty in maintaining a steady supply of wood all support this conclusion.[2]

Yemenis employ three traditional boat types as working craft: the *khashabah*, the dugout *huri*, and the sewn *sanbuq*.[3] While still in use, none of these craft are currently manufactured in Yemen; larger, fully planked, iron-fastened craft are

Yemen in the Middle East. Drawn by the author.

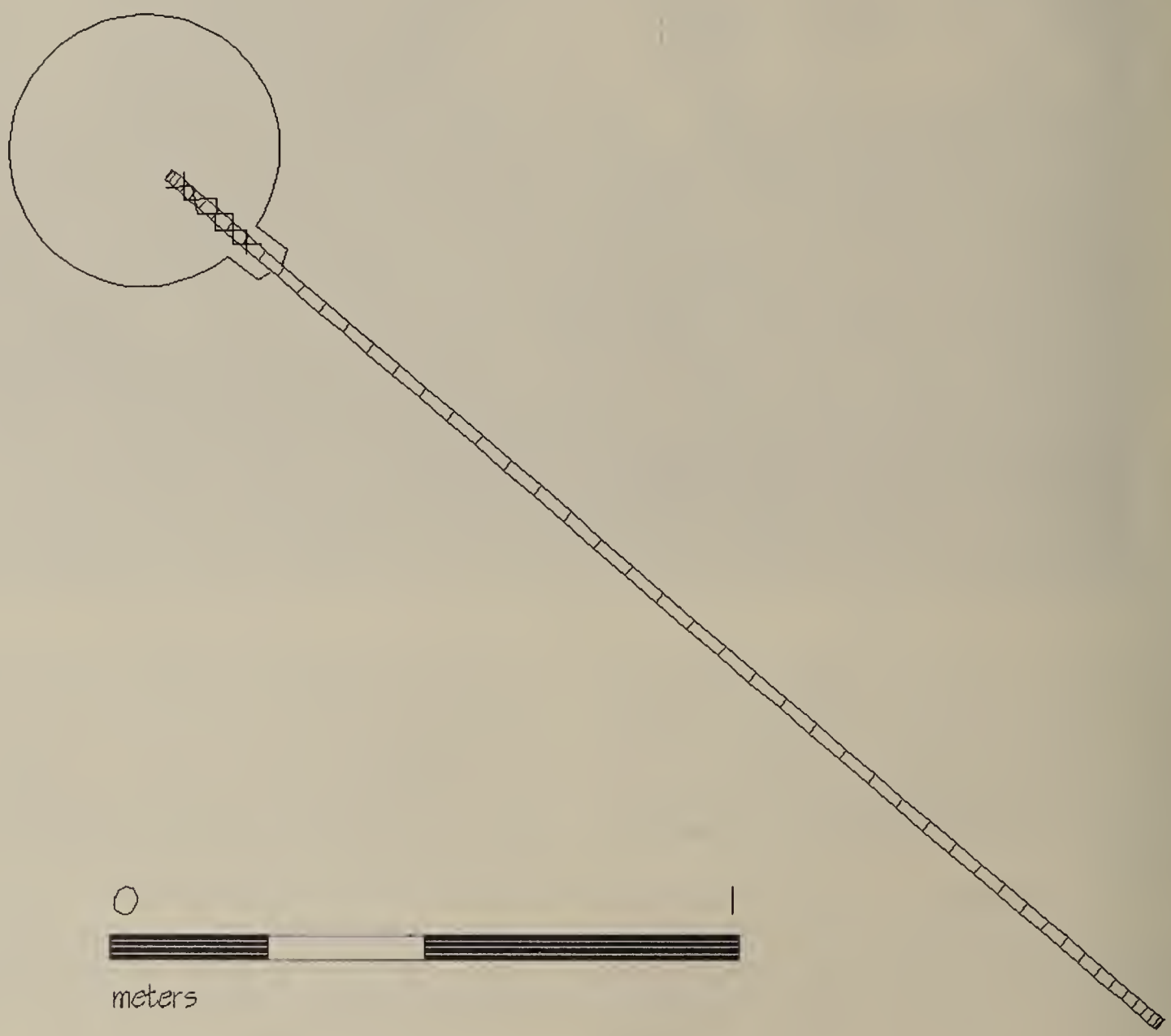
Khashabah. Photo by the author.

displacing these traditional boats. Although no scholar has attempted to define the temporal origins of each vessel type presented in this article, the boats are based on principal designs that date back to the earliest eras of waterborne transport.[4]

A note regarding classification systems: Arabs, including Yemenis, are far less rigid in categorizing their vessels than Westerners. Arabs identify craft according to general hull shape. Their categories are loosely defined and feature extensive internal variation. In the West, by comparison, boat categories proliferate but feature far less internal variation. I have chosen to accept the Yemeni typology rather than attempt to mold indigenous craft into an alien framework.

Khashab (خشب، خشبة) (sg. *khashabah*) are small, one-person fishing rafts that dot the southern Red Sea coast from Mocha to al-Hudaydah. Although the term *khashabah* has a variety of meanings in Arabic, ranging from timber or lumber to any wooden waterborne vessel,[5] Red Sea coastal fishermen know the *khashabah* as a fishing raft. *Khashab*, consisting of lashed timbers, are tapered from the raised, narrow bow to the wider stern. Members of the 1982 Tihamah expedition recorded the name of the craft as "*chasabo*," which they believed was a variant of "*khashabah*." The report of this expedition suggests that the *khashabah* may have originated in India and brought to the Red Sea coast via South Arabia, where the use of such vessels has died out.[6]

Khashab are noteworthy because they are survivors of humankind's earliest attempts at waterborne transport.[7] Unlike most boats in use today, log rafts of this sort rely upon the inherent buoyancy of their timbers rather than displacement for flotation. Makers of *khashab* lash eight to twelve timbers together. Nylon line has replaced the original, knotted palm leaves. A cross member, lashed near the stern of the *khashabah*, helps bind the timbers together and prevents them from working against each other. The average *khashabah* is two to three meters in length overall, with a beam ranging from one-and-a-half meters at the stern to around one half



A "big hand." Drawn by the author.

The American Neptune

meter at the bow. Bow timbers are one half meter higher than at the stern. The raft's timbers average thirteen centimeters in diameter aft and are lashed together at four points, one near the stern and three forward of amidships, where the timbers arch upward. According to the owner of one raft that I measured, his *khashabah* dated from "the days of the Imam" (before the 1962–1970 revolution that overthrew the Imamate, or monarchy, in Yemen). He proudly pointed out some older timbers still contained in the raft.

Khashab rarely venture far from the shore. Often, their skippers operate within the surf zone. Here, the unsinkable *khashabah* is highly effective. Beach seining with the *khashabah* is often a group effort. The *khashabah* operator poles the vessel and one net end out to deeper water while an onshore team holds the other end of the net. After some time, the *khashabah* returns, and the fishers gather up their net to examine the catch.[8] *Khashab* may also be used by solitary operators who wish to venture into deeper water or to check on crab pots and nets.

The operator of a *khashabah* powers his craft by poling or paddling. The Yemeni paddle is distinctive, consisting of a pole to which a wooden circle is lashed at one end. Clifford Hawkins, a researcher of the nautical Indian Ocean littoral, believes these paddles originated in India.[9] A Yemeni practicing his English fittingly referred to the paddle as a "big hand." "Big hands" are not a recent importation to the region; seventy-five years ago, maritime historian Sir Alan Moore noted the prevalence of the circular paddle in Arabia.[10] For anchoring the *khashabah*, simple stone weights may be used. These anchors, like the raft itself, are survivors from the dawn of human history.

Although I did not see *khashab* being built along the Red Sea, fishermen continue to maintain these rafts and may even build new ones if necessary. One needs no experience as a builder, no supplies of foreign timber, and no specialized tools. The only requirements are eight or nine locally grown crooked timbers, a length of nylon line, and some scrap wood. The vessels are currently ubiquitous along the shores, although I did notice some competition appearing in the form of large Styrofoam rectangles.

A *huri* (هوري، هواري) (pl. *huwari*) is the Arabian equivalent of a dugout canoe.[11] Now primarily used as fishing vessels, *huwari* at one time also served as harbor launches and as ships' boats aboard the larger dhows that used to ply the waters of the Indian Ocean in great fleets.[12] Johnstone and Muir claim that *huri* is the Arabic form of the Urdu word for a dugout canoe, *hori*; this word seems to relate to

Dugout *Huri*. Photo by the author.

the dugout *oru* of Sri Lanka that Kapitan has recently described.[13] *Huwari* are imports; the large timber required for the construction of a dugout is not found in Arabia. Muhammad Hamadi Zayn, a fisherman from Yemen's major Red Sea port al-Hudaydah, listed India as the primary source. The dugouts were fashioned before export to eliminate unnecessary bulk and weight, and were often bought, carried, and sold by dhow captains on speculation.[14]

Although *huwari* are not indigenous Arabian craft, they were modified extensively upon importation to Yemen.[15] Often, a keel was attached. Less frequently, stem and sternposts were also fashioned. Thwarts were added and Indian ornamentation removed. A mast step, placed well forward of amidships, was installed in most fishing *huwari*. Imitation floors, carved into the hull by the Indian builders, were not removed. The most conspicuous addition by Yemeni craftsmen to the *huri* was a pair of broad sheer strakes, one to each side. The builders mounted the strakes to increase the vessel's marginal freeboard after soaking the shell in tepid water to spread apart its narrow sides.[16] Athwartship frames were added as strengtheners, typically spaced about one half meter apart. The frames were fashioned from natural crooks of wood from Yemen, East Africa, and India; species used included *arj* (أرج) (*Zizyphus Spina-Christi*), *sumar* (سمار) (a species of *Acacia*, and *hulaj* (هولج) (*Balanites aegyptiaca)* Bowen claimed that only *huwari* of the southern coast, not the Tihamah, were planked and framed. My research findings differed. I saw many modified *huwari* along both of Yemen's coasts.

This strake addition technique, seen throughout the world, represents the evolutionary link between dugout and plank built craft. Gradually, the dugout sections diminished in proportion, while the plank built sections moved farther and farther toward the keel.[17] *Huri* strake addition itself may have evolved from a more temporary solution for increasing freeboard: the fastening of palm matting above the gunwales to prevent continuous flooding from the short, choppy waters of the Indian Ocean and the Red Sea. Maritime author Alan Villiers observed this practice in the late 1930s, and noted that it was "surprisingly efficient" at keeping out the sea as his vessel pitched and rolled in the short waters of the Red Sea.[18]

Huwari are ubiquitous along both of Yemen's coasts, from Midi in the northern Tihamah to Sayhut in southern Yemen's easternmost province, al-Mahra. I observed no *huri* longer than ten meters; some were not much more than three meters in length. *Huwari* of the Red Sea coast are painted; those along the Gulf of Aden coast are neither painted nor payed with the whitish antifouling compound known as *shahm* (شحم), an odious mixture of lime and animal fat designed to ward off the attacks of the *teredo* worm. Instead, fish oil is applied to the entire hull, inside and out, providing a freshly oiled vessel with a deeply hued, glimmering cast.[19]

The most remarkable structural difference between Tihamese and South Arabian *huwari* is that some South Arabian *huwari* feature sewn sections. While the first strake is invariably attached with iron or copper fasteners, in instances where more than one strake has been mounted above the dugout shell, the strakes may be sewn to one another by means of single lashings. Villiers remarked that the palm matting of the vessel in which he sailed was sewn to the gunwales; thus, the sewn plank method seems to derive directly from this more temporary expedient aimed at reducing water intake.[20]

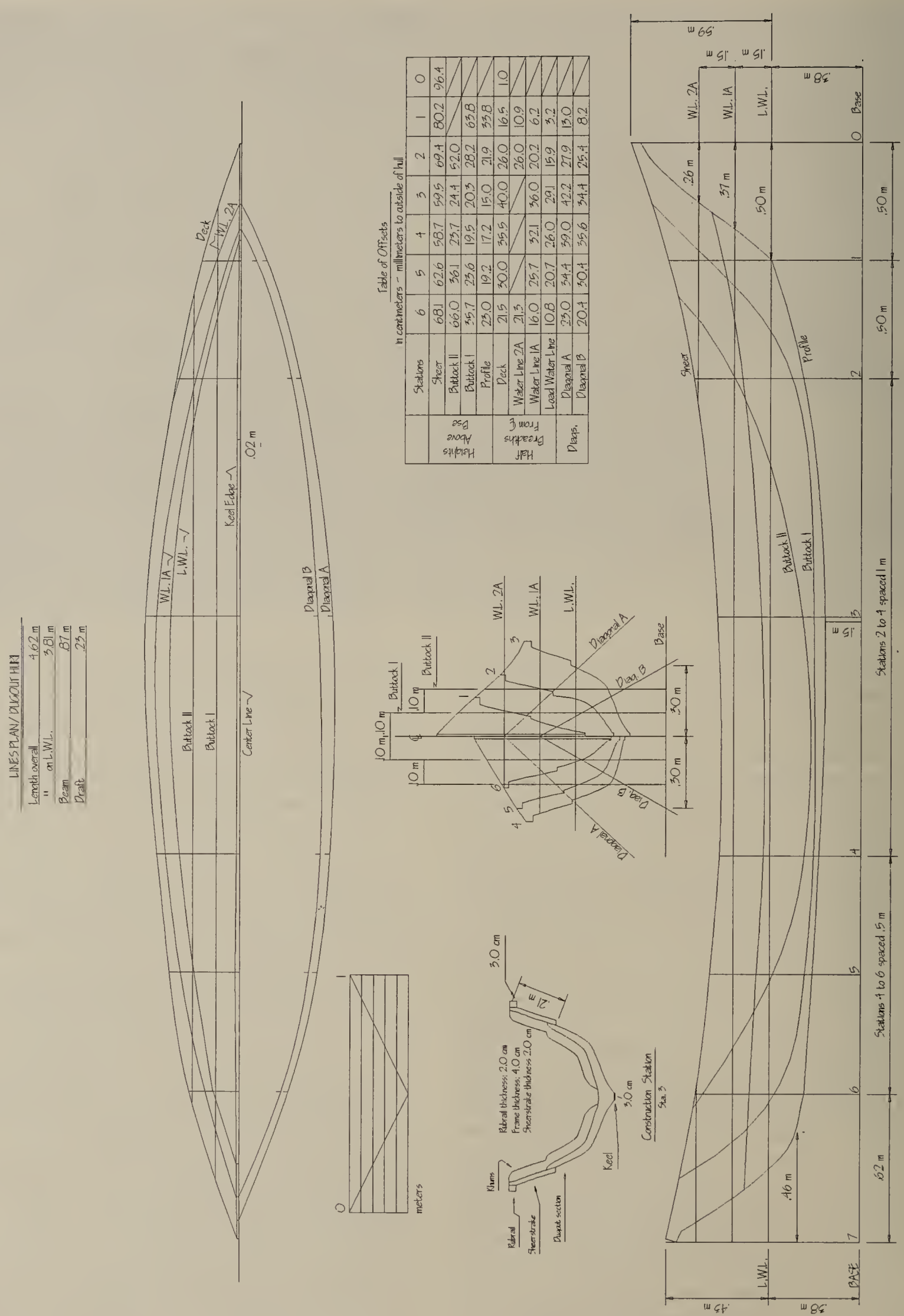
The increasing popularity and availability of outboard engines had a significant impact on *huri* design: Double enders were rendered economically obsolete. Most double ended *huwari* have since been modified for an outboard engine by the simple expedient of springing apart the sheer strakes at the stern and inserting a transom. To bridge the resultant abaft gap between the tapered gunwales of the dugout section and the open ended sheer strakes, two horizontal strakes known as *takhlisah*

Left: *Huri* transoms. Right: View of modified *huri*; the *takhlisat* planks are clearly visible. Photos by the author.

(تخليصة) (pl. *takhlisat*) were inserted perpendicular to the dugout's gunwales. The inside edge of each *takhlisah* was fastened to the gunwale while the outboard edge was fastened to the sheer strake. Yemeni boatbuilders still use *takhlisat* in plank built *huri* construction to give them the shape of the transom. Frames were generally sawn off above the dugout section where the *takhlisat* drew the sheer strakes away from the centerline. The result of these modifications is the "box end" *huri*.[21]

Double ended *huwari* rely on sail or paddle for locomotion. I observed several sailing *huwari* in use at the Red Sea towns of al-Khawkhah, al-Luhayyah, and Midi. Sail material for these boats ranges from soiled cotton canvas to modern brightly colored Dacron or nylon, and the rig itself is a simple lateen that collapses easily for removal from the vessel when the craft is not in use. As with many small fishing craft, no stays are used to secure the mast. The running rigging is confined to a halyard, tack, and sheet. Larger transom sterned *huwari* depend on mechanical propulsion, mounting one or two outboard engines. I have seen mast steps, masts, rigging, and sails on some larger *huwari*, although most look like, in Hawkins' words, "oversize launches," and lack rigging.[22] I once saw three distant, large *huwari* under sail on a starboard reach off al-Khawkhah; however, the ships came to shore by means of mechanical propulsion. The captain (*nakhuda*) of a large *huri* may use sail if the breeze is fair, his vessel's engines malfunction, or he runs out of fuel. The presence of spindly spars in most of these vessels suggests that their crews regard sail primarily as an emergency or auxiliary means of locomotion.

Most contemporary *huwari* are powered by outboard engines and do not have built-in rudders. Small double ended sail-only *huwari*, however, do have outboard rudders. Appearing crude and flimsy in manufacture, and controlled by two fishing lines strung on either side, these rudders are nonetheless remarkable. They mimic the qualities of the earliest representation of the Arabian sternpost rudder, depicted by Yahya ibn Mahmud al-Wasiti in al-Hariri's ca. 1237 manuscript, *Maqamat* (*Assemblies*). The rudder, mounted on the vessel's sternpost, is controlled by two lines attached to the gunwales, one port



Lines of a double-ended *huri*. Drawn by the author.

The American Neptune

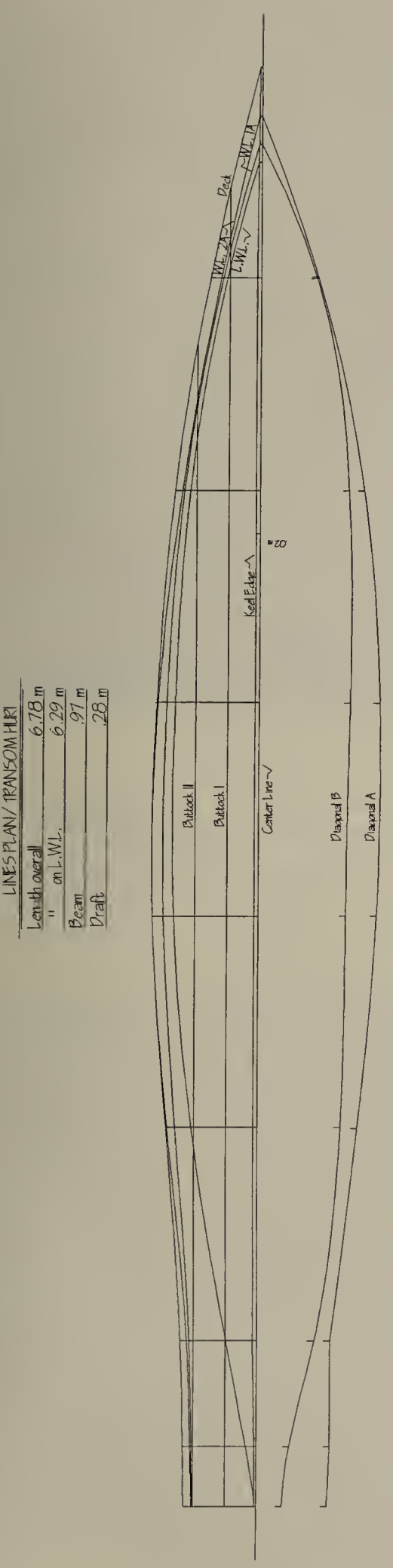
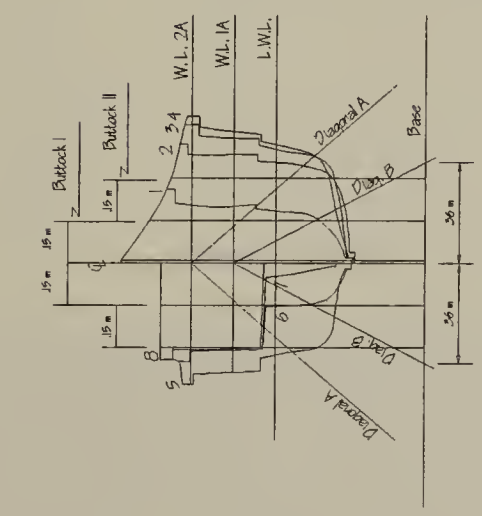
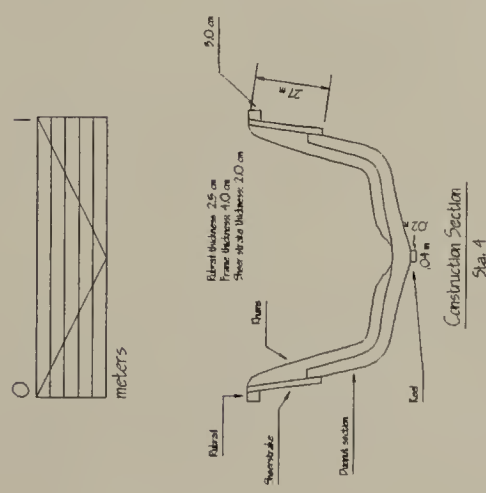
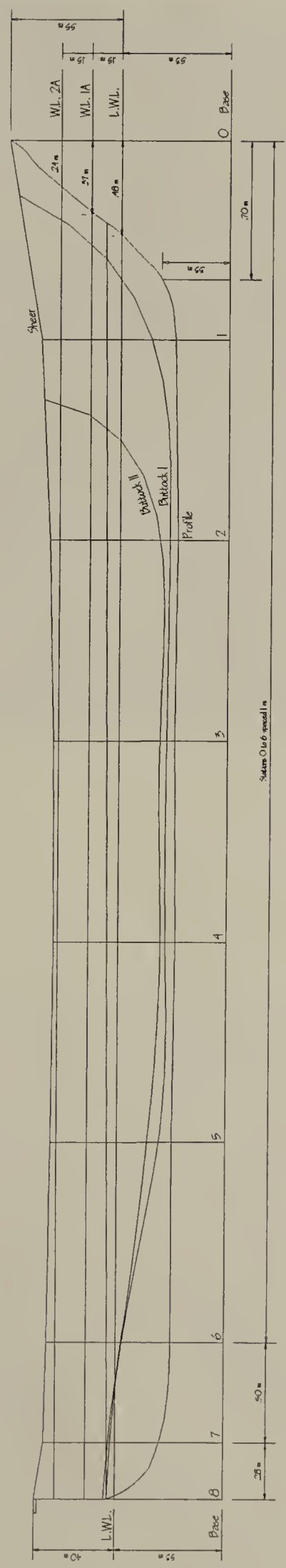


Table of Offsets
In centimeters – millimeters to outside of planking

	Stations	8	7	6	5	4	3	2	1	0
Heights Above Base	Sheer	94.3	89.2	87.7	86.4	85.3	86.0	87.6	92.5	108.4
	Buttock II	58.4	57.8	57.8	57.5	52.5	54.3	55.4		
	Buttock I	57.9	57.1	49.7	31.6	31.0	29.5	27.9	37.8	
	Profile	57.4	31.7	26.3	26.4	25.3	25.9	25.0	26.4	
Half Breadths From ℄	Deck	34.4	35.0	35.0	43.0	51.9	48.9	42.0	26.0	1.0
	Water Line 2A	30.8	31.5	31.5	43.0	52.0	49.0	38.2	20.3	
	Water Line 1A	30.4	30.9	30.9	38.9	46.4	44.2	38.2	19.9	
	Load Water Line		4.8	15.2	32.6	41.8	40.1	35.5	18.3	
Diags.	Diagonal A	33.3	34.5	34.5	48.2	57.8	57.8	52.7	30.3	
	Diagonal B	12.1	13.1	30.8	40.8	41.0	45.0	44.5	33.6	







Lines of transom-sterned *huri*. These two illustrations represent lines plans of both the double ended and transom sterned dugout *huwari*, taken off two vessels from the town of al-Hami. Drawn by the author.

Huri under sail. Photo by the author.

and one starboard.[23]

Most *huwari* are fitted with grapnel anchors, known as *anjar* (آنجر). Local blacksmiths forge the grapnels from rebar iron. The number of arms of the anchors ranges from four to six and may end as either points or flukes. Grapnel anchors are effective for anchoring in the sandy bottoms encountered along much of Yemen's two coasts. Bowen believes that grapnel designs are not original, but were imported to the Indian Ocean littoral by Greco-Roman mariners in the first and second centuries[24] Docking lines or painters are led into the boat through a rectangular hole in the top forward portion of the dugout section, where a portion has been left solid. The line is attached to itself.

Several factors have resulted in the decline of dugout *huri* importation into Yemen. The large timber required for dugout construction has become scarce in the East and, consequently, expensive. Regular dhow sailings to the Indian subcontinent have also sharply diminished. As a result, *huwari* carried to Arabia on speculation are concurrently rare. Finally, despite a fisherman's claim that dugouts lasted forty years as opposed to ten years for a plank built *huri*, the latter have proven their usefulness and economy. In Yemen, refrigeration, improved roads, and a subsequent increase in national demand for seafood has piqued foreign commercial interest and boosted the indigenous fishing industry. The newer *huwari* are larger and can mount sizeable iceboxes for extended fishing trips.

The dugout *huri*, an import from India, is more properly a part of that nation's maritime heritage. These vessels, however, like more recent foreign commodities such as taxis and diesel trucks, have been extensively modified and impart a uniquely Yemeni flavor. Although dugout *huwari* remain pervasive, it is likely that over time they, too, will disappear, replaced by either locally made fiberglass or plank built *huwari*.

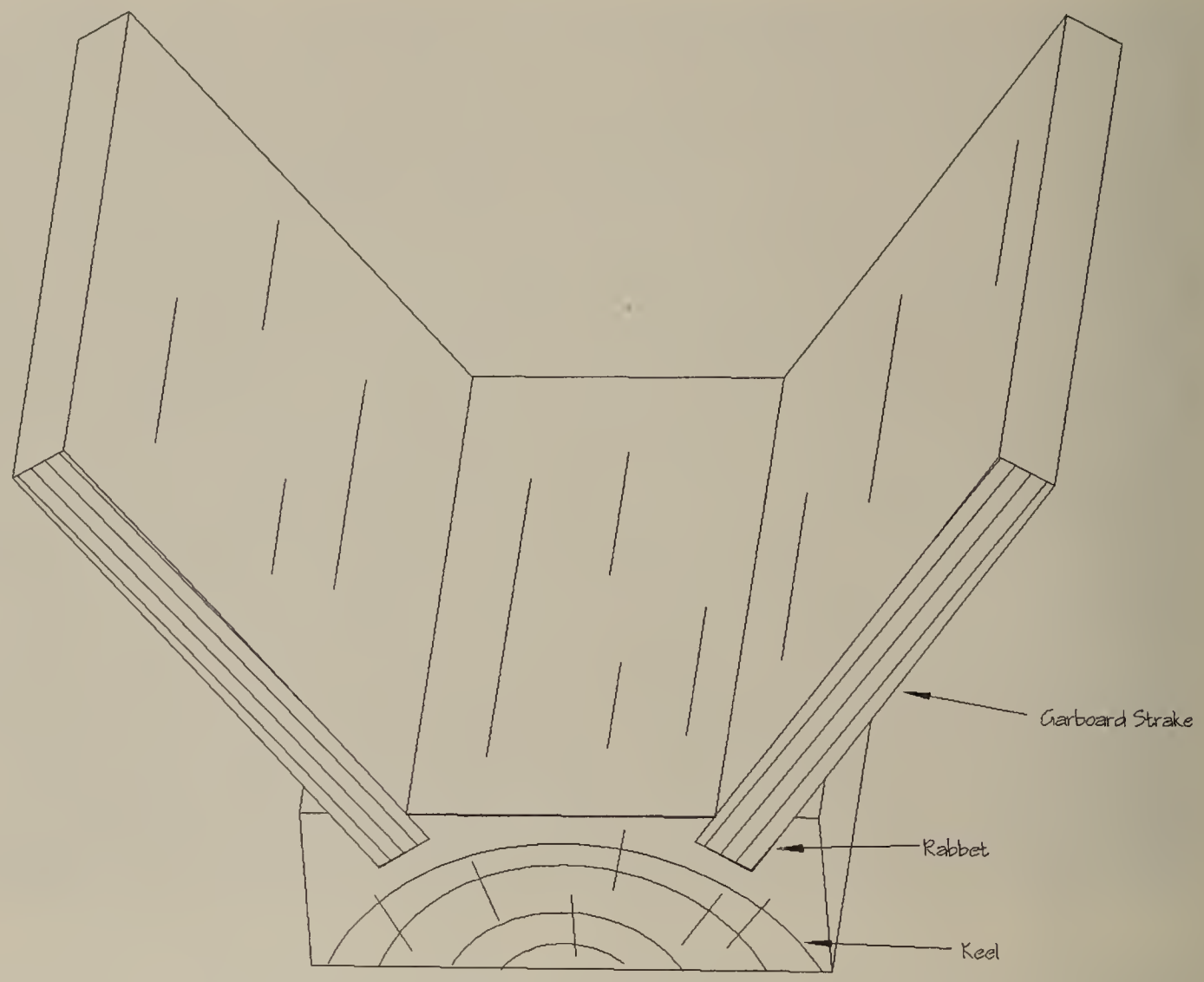
Many explorers, travelers, and researchers have commented on the preserve of a particular type of sewn boat found along Yemen's southern coast and in Oman's neighboring Dhofar region.[25] Bowen

discussed aspects of this craft in detail, a vessel whose origins he assigns to India, citing the similarity in hull lines between it and the Indian *huri*.[26] Whatever the sewn boat's antecedents, it was not an Arabian invention, as ships and shipbuilding materials originally had to be imported from forested areas to the Peninsula. Although scant attention has been dedicated to this vessel type, it is an important remnant of the sewn tradition that dominated Indian Ocean littoral boat construction before direct European contact in the sixteenth century. During a coastal survey covering almost the entire portion of the southern Yemeni coast, I spotted several sewn vessels in active use. Observations and discussions with locals, however, revealed that sewn wooden boat construction has ceased, and fiberglass *huwari* are replacing the older sewn vessels. The same sewn boats in Oman also seem to face imminent extinction — the last such craft was reportedly built in 1977.[27]

Bowen saw sewn vessels along the Yemeni coast from Aden, the largest city and port of the southern coast, to al-Mukalla, five hundred kilometers to the east and the port of the Hadhramawt Province. Yemenis informed him that the vessels were also common east of al-Mukalla, in the most remote regions of southern Arabia.[28] By contrast, I saw very few sewn vessels between Aden and al-Mukalla. The frequency of these craft increased markedly east of al-Mukalla, however, with the densest distributions at the towns of al-Shihr and al-Hami. I also observed one sewn vessel sheathed in filthy burlap, slowly rotting amid the refuse of Sira Bay, Aden. In the 1940s, Bowen saw perhaps thirty sewn vessels at Aden, but concluded that shipwrights practiced sewn construction exclusively at the ancient town of al-Shihr, nearly five hundred kilometers to the east.[29]

Bowen referred to these stitched double ended vessels only as "sewn boats."[30] He refused to categorize the craft, citing the contradictory terminology employed by Yemenis who labeled the boat variously "*sanbuq*"(سنبوق، سنابيق) (pl. *sanabiq*) or "*ibri*." *Sanabiq* of Bowen's era had transoms, and *ibris* were not to be found, although he supposed the *ibri* to be a larger nailed variant of the *sanbuq*.[31] Yet, during my research in Yemen, locals referred to the sewn vessels only as *sanabiq*. While the sewn *sanbuq* of South Arabia is distinct from the contemporary double ended, iron fastened *sanbuq* of the Tihamah, which is still being built, I will refer to the sewn vessel as a *sanbuq*.[32] In order to avoid confusion, the term *sanbuq* as used in this article refers to the sewn *sanbuq* of Yemen's southern coast unless otherwise noted. Sewn *sanabiq* are smal-

Sewn *sanbuq* of Yemen. This sewn *sanbuq* was fastened with nylon, not coir cord. The hard chine amidships is clearly visible. The *sanbuq* is unique amongst Yemeni craft in that it has a chine, although chine pieces are lacking. A fiberglass *huri* lies behind the *sanbuq*. Photo by the author.



Idealized sketch of keel, rabbet, and garboard strakes. Photo by the author.

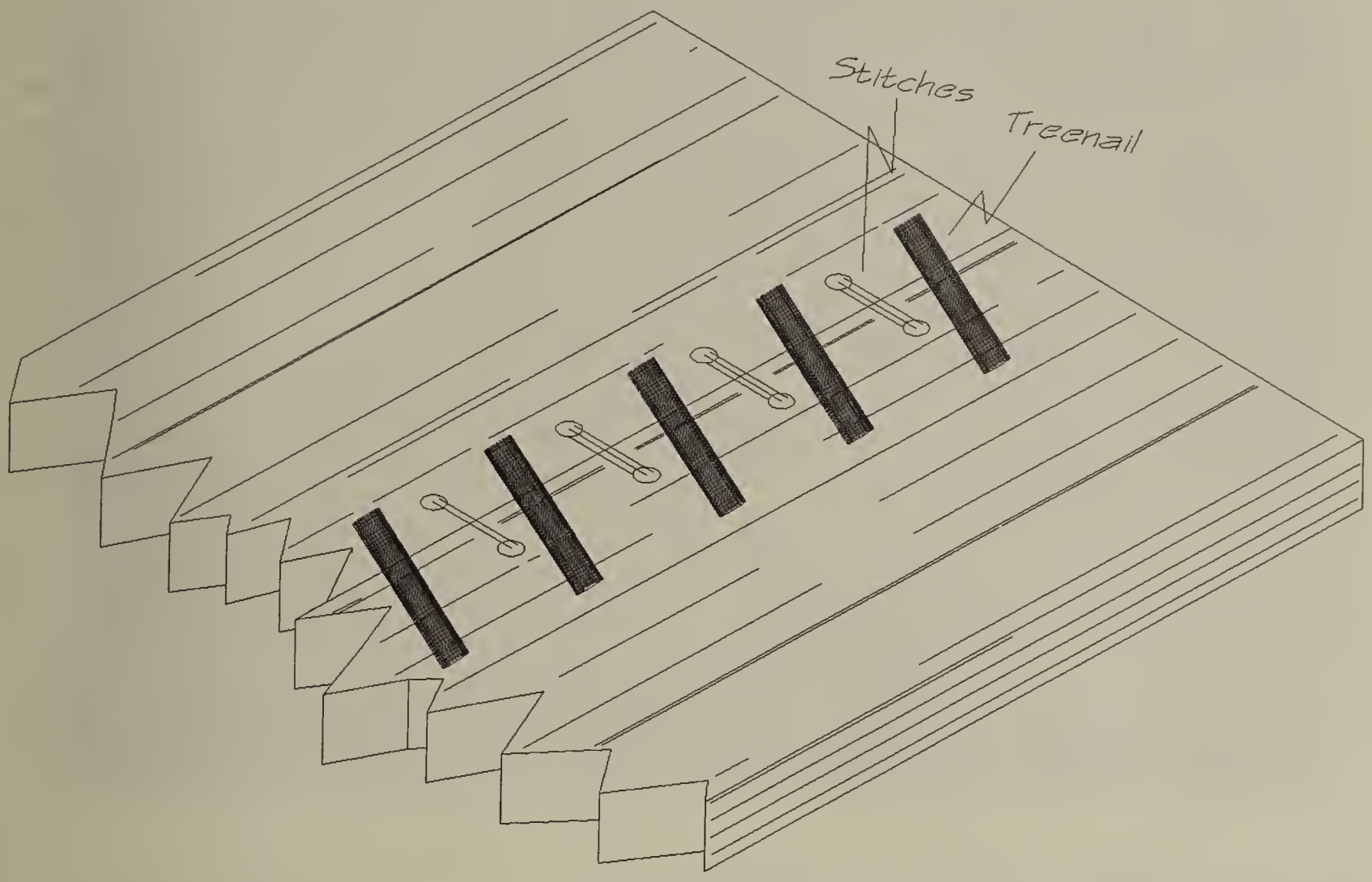
ler than fastened *sanabiq* of the Red Sea and are used only for coastal fishing, although the craft also served as lighters during the era of dhow borne coastal trade.[33]

Yemen's sewn *sanabiq* are as significant in their construction methodology as in their fastening technique. The sewn boats represent the last surviving example of shell-first boat construction in Arabia. Although wooden boatbuilding continues to flourish in the Tihamah region, the builders there use an amalgamation of shell-first and frame-first techniques.[34] In shell-first construction (as with true lapstrake hulls), builders rely on planks, rather than frames, to create, shape, and fortify the hull. Planks are the vessel's primary structural components. Floors and frames are attached to impart additional strength following completion of the hull. The plank stitching of the South Arabian *sanabiq* provides the evidence that the vessels were completely shell-built. The stitching runs under the frames, which could only have been fastened after the planks had been mounted.[35]

While I was not able to witness sewn construction in progress, I did examine extant specimens of *sanabiq* and recorded aspects of the craft's building methodology. The following description of a *sanbuq*'s construction process has been culled from interviews with knowledgeable fishermen, personal observations, historical accounts, and the writings of Bowen and maritime specialist James Hornell.

Builders laid the keel first. The garboard strakes were fit into unconventional rabbets that took the form of two parallel grooves chiseled into the keel. The strakes were attached to the keel by means of single, or discontinuous, lashings. Sewn *sanabiq* are carvel craft, and subsequent planks were fastened end-to-end. The keel was tapered fore and aft where it met the narrower stem and sternposts.

Before actual stitching commenced, shipwrights inserted obliquely set treenails to help fasten the planks together. Treenails were ham-



Oblique treenails (not visible on actual craft). After Hornell, *Mtepe* and *Dau*, 60.

mered diagonally from the bottom of one plank into the top of the adjoining plank.[36] Their protruding ends, inside and out, were trimmed off near completion.[37] According to Bowen, Arabian builders may have adopted the practice of using treenails from ancient Egyptian shipwrights. The Cheops Boat (ca. BC 2550), found at the foot of the great pyramid at Giza and the oldest specimen of a sewn craft, relied on both lashings and mortise and tenon joints to bind the shell together.[38] Tenons were secured by means of pegs or treenails. Alternately, treenails may be an import from the Indian subcontinent, where the sewn *sanbuq* may have originated. (See Bowen, *Primitive Watercraft*, 220–221). Whatever their origins, treenails must have been featured in Arabian boatbuilding for at least one thousand years. The Arabian tradition of treenailing may therefore be a corruption of this practice of pegging the tenons. Marco Polo observed treenails in use at Hormuz in the thirteenth century, although W. H. Moreland later questioned Polo's account.[39] The use of treenails assisted the builder in crafting a secure fit between the mated planks— a vital concern in any shell-built craft whose rigidity and durability are decided by the tightness of the hull. An engineer who visited the construction site of Severin's *bum* "Sohar" estimated that its builders tolerated less than a 0.4 millimeter gap between planking runs.[40]

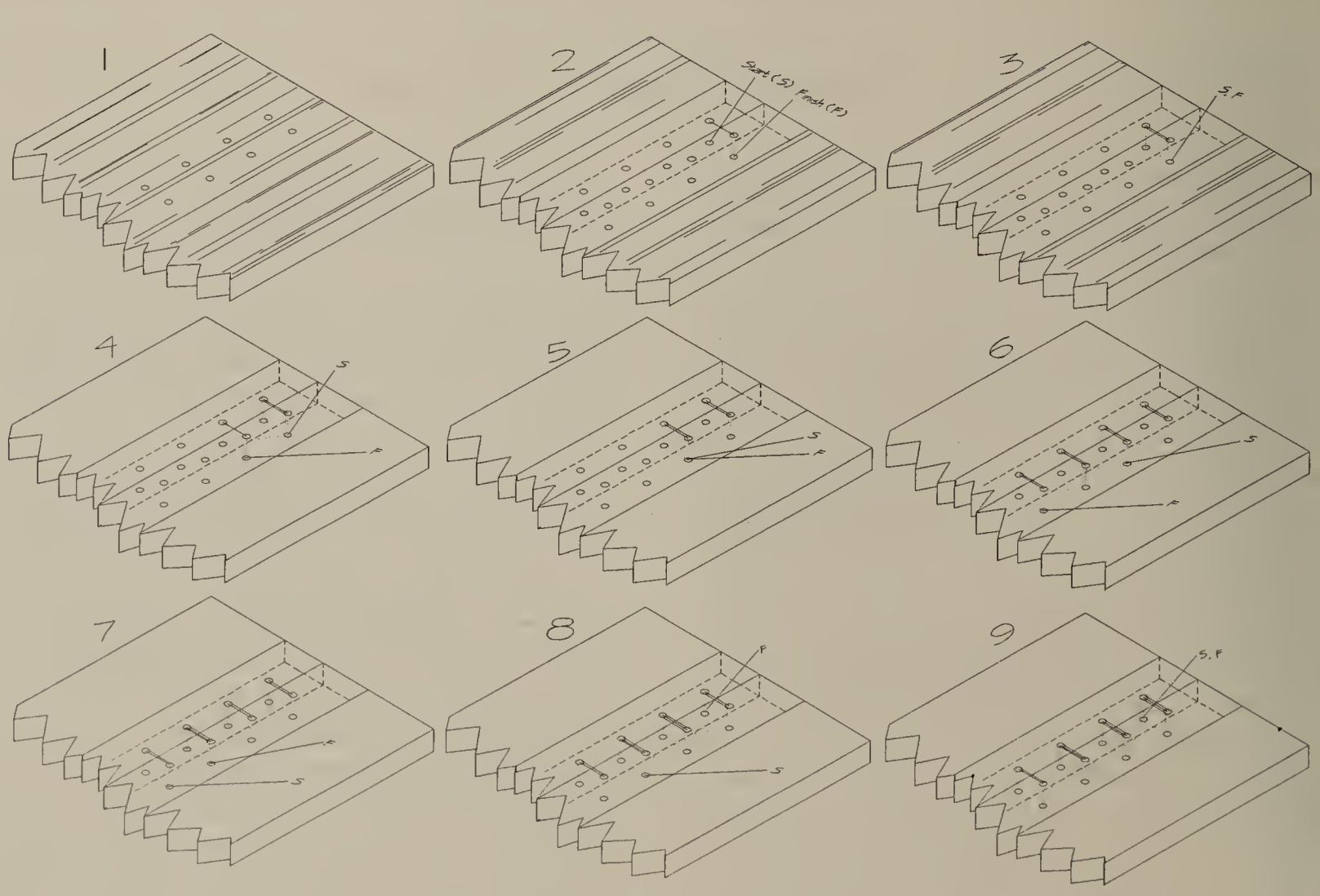
After the builders had pegged at least some planks with treenails, they began stitching. Nylon was used for sewing the newer *sanabiq* and is still used for repairs. Coir thread, derived from the husks of coconuts, was the fastening material in earlier eras.[41] Coir stitches were weaker than nylon and had to be made far thicker than comparable nylon stitches.

Two separate fastening techniques were used to attach planks to one another. Fastening of the lower strakes from the garboard strakes to the turn of the bilge proceeded in a manner similar to that employed in the construction of the *mtepe*, a vessel of East Africa's Lamu Archipel-

ago.[42] Holes were bored with a manually powered bow drill in one plank approximately five centimeters apart horizontally and one-and-a-half centimeters from the edge of the plank. The mating plank was drilled similarly. The holes were smoothed; in the Laccadive Islands, at least, builders used stingray tails to accomplish this task.[43] After this was done, superficial grooves were cut between opposing holes on each plank so that the exterior cord lay flush with the hull of the vessel to avoid chafing. Coir caulking was hammered into the interior plank seam, which was then covered by batting material. Batting in Bowen's era was fashioned from palm leaves. Today, like the nylon thread used in repairs, it, too, is synthetic.[44] The batting material was covered with a resinous substance that Severin identified as *chundruz*, a tree gum from India.[45] Finally, builders stitched the plank seam together. The process of stitching also served to clamp the batting material securely to the seam.

Stitches were not independent of each other. Many stitches were woven from the same length of thread. This technique, which Bowen termed "continuous stitching," involved the patterned sewing of the planks from right to left for two meters, following which the stitcher returned in the opposite direction by means of an altered pattern to the point of origin.[46] The stitching process resulted in a crisscross, triangular pattern inside the boat and a series of roughly parallel vertical lines on the outside. It is probable that plugs were inserted at the ends of stitching runs to secure the cord ends. Stitching holes were filled with pitch for increased water resistance.

Above the turn-of-the-bilge, planks were fastened to one another by means of single lashings.[47] The seams were wider apart than those below the turn-of-the-bilge, and batting material was not installed to back the interior plank joint. Two different stitching techniques



Phases in the stitching process. Dashed lines represent interior stitching segments. Batting not shown. After Hornell, "*Mtepe* and *Dau*," 60.

View of exterior plank stitching. Photo by the author.

were employed in building the vessel: continuous stitching and single lashings. The disadvantage of employing single lashings is that they produced a joint less secure and less water resistant than one formed by continuous lashings. The advantage of this method is that it saved time and labor, and made replacement of the upper strakes simpler. Builders could use this technique because they did not need to create an extremely water resistant upper hull. Only those planks that were continuously immersed required continuous stitching. Strakes were appended to a secure shell to increase freeboard; these topside planks reduced bailing better than palm matting.

Sewn *sanabiq* thus embody two distinct stitching traditions. Bowen believes that continuous stitching is a more recent evolution from single lashings, and may have been a late import from India or Indonesia to Arabia. He believes the earliest picture of a sewn dhow, found in al-Hariri's *Maqamat*, suggests the vessels were originally sewn by paired rather than continuous lashings.[48] However, another extant version of the manuscript, also from Iraq, dated ca. 1225–1235, depicting a broken masted dhow, distinctly portrays the vessel's triangular stem and stern lashings which appear identical to those of a sewn *sanbuq*'s.[49] It is likely that continuous stitching was practiced in Arabia for centuries before Bowen's thirteenth or fourteenth century estimate. While the origins of the various stitching techniques are probably Eastern,[50] the dates of their respective incorporation by Arab builders remain undefined, lacking additional relevant pictorial or archaeological evidence.

The stem and sternposts were attached following completion of the hull. The planks were butted, rather than rabbetted, into those members.[51] Necessarily, builders modified their stitching technique at the intersection between the planks and the stem and sternposts. The lack of interior space and subsequent inaccessibility at the extreme ends of the *sanbuq* resulted in the continuation of the crisscross triangular pattern of stitching outside the craft. This exterior segment of stitching was almost identical to the interior lay of plank stitching, the primary difference being that the diagonal lashings were doubled. The pattern formed along the stempost

Stitching at stempost. Photo by the author.

is more easily observed than the pitch-covered interior stitching. Exterior stitching followed both ends of the keel for approximately one half of a meter, until interior space allowed the stitching to run inside the craft. The same batting material used under the interior plank stitching was also inserted under the exterior stitching of the stem and sternposts, where it may also be readily examined. Stem and sternposts were straight members. The inboard facing quarter of the long, raking stempost was usually trimmed off — a common Yemeni practice.

Frames were sewn to the planks by means of single lashings following primary shell completion. Earlier installation of the frames would have interfered with plank sewing, although flooring may have begun following completion of the hull to the chine. Builders laid the frames in alternating sets from stem to stern. The first set consisted of a pair of long frames, running from the sheer strake to the garboard strake. The second set consisted of one long floor and two shorter frames which were not joined to the floor. This alternating frame/floor technique staggered neighboring joints, thereby preventing potential structural weaknesses. Yemeni builders continue to incorporate this methodology into contemporary craft. The frames without floors are known as *khums* (خمس), those paired with a floor are called *tinkasah* (تنكاسة).

Oculi (symbolic eyes) were often carved into the wood at the stem and/or sternposts. As with most other Yemeni vessels, they were never painted on.[52] Two or three thwarts were installed, lashed to the frames. No sewn *sanabiq* were decked. Sewn *sanabiq* seen along the shore ranged in size from five to ten meters. The average length overall of seven meters had declined from the ten meters that Bowen claimed was typical.[53]

According to Mahmud Mu'allim, a Tihamese boatbuilder from al-Khawkhah, Yemeni boatbuilders stopped using teak (*saj*; ساج) within the past twenty years because of the wood's high cost. Fishermen from al-Shihr, however, claimed that the builders used teak planking in crafting sewn *sanabiq*, which accounts for the vessels' durability and the attractiveness of those that continue in active service. The finishing of the sewn *sanbuq* accentuates the beauty of the teak

planking, for a craft in active service is coated regularly with glossy fish oil for protection.[54]

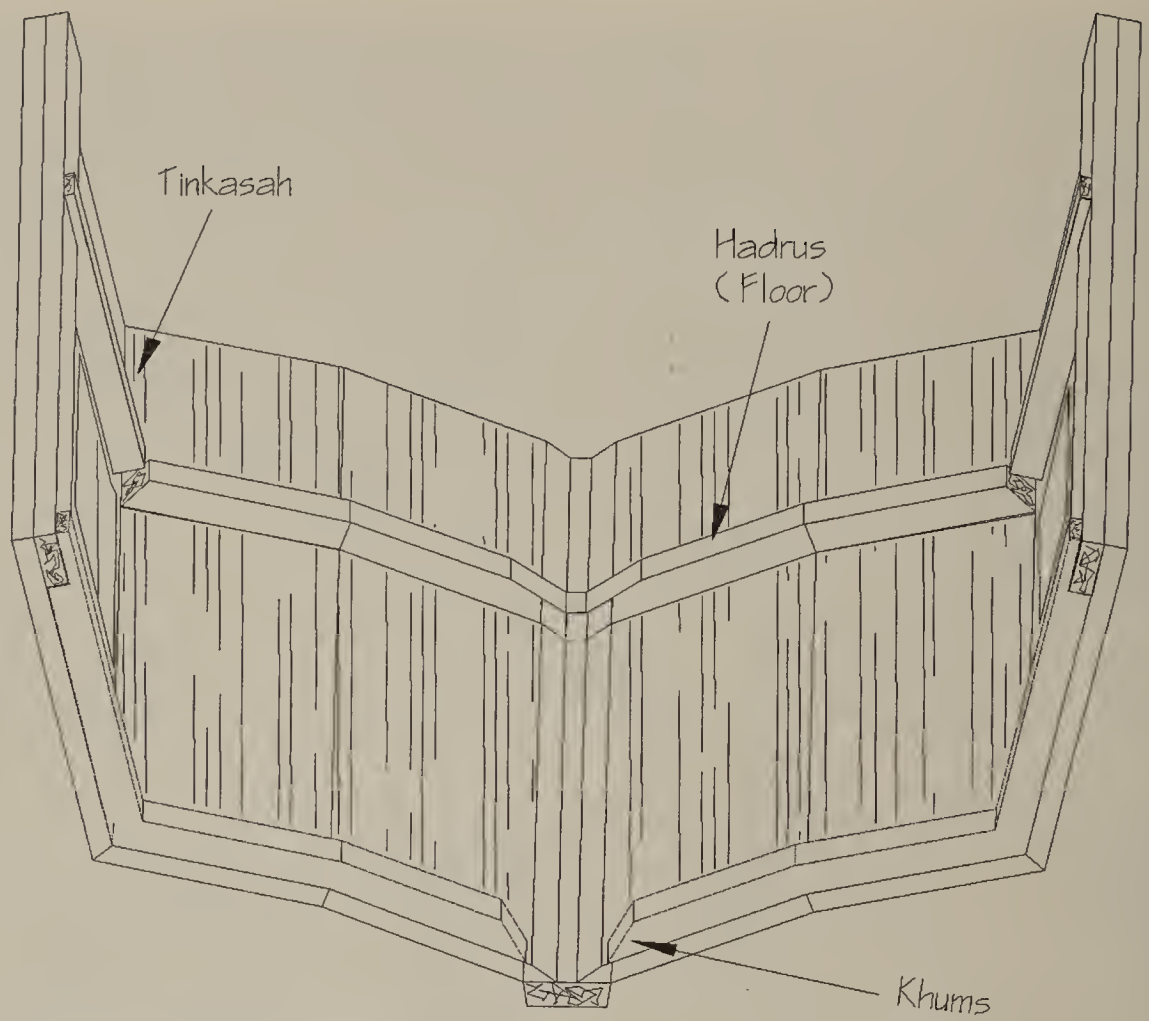
Like *huwari*, many sewn *sanabiq* recently have been retrofitted with a transom for use with outboard motors. This process was more complicated than for a *huri* and, consequently, more expensive. The *sanbuq*'s sternpost had to be trimmed down, the sheer strakes sprung apart, and a transom piece inserted. Planks were trimmed and resewn to each other and the new transom. Aft frames had to be removed, replaced, and resewn. Despite the difficulties involved, the *sanbuq*'s tapered "V" shaped transom blends more elegantly with the craft than does the box shaped transom of the *huri*, and there is no need for the bridging plank known as the *takhlisah*.

Although most South Arabian *sanabiq* in use are now fitted with transom sterns, mast steps placed well forward of amidships remain in the craft. Both Villiers and Bowen mentioned that the sails of *sanabiq* and *huwari* were square, notable exceptions to those of the lateen infested Indian Ocean.[55] According to Bowen, the lateen was not found along the Red Sea and East African coast before the twentieth century, and is a recent innovation in those areas.[56] Villiers claimed that oarsmen paddled the larger sewn vessels (perhaps *ibris*), and either paddles or small outboard rudders steered the sewn vessels through the surf of the Gulf of Aden.[57] By contrast, all of the *sanabiq* I saw along the southern coast were powered by motors; sail was not to be found. I observed grapnel anchors aboard several *sanabiq*.

The phases of *sanbuq* construction, from carefully worked members to the shell's teak planking and delicate stitching, produced a durable craft with a pleasing sweeping sheer and raking bow. The vessel shone with a fresh coat of fish oil, and palm matting, designed to protect the interior from the harsh Arabian sun, covered the floors and frames. The hull required little positioning to attain a level station, as it had been placed almost perfectly upright with stones and branches carefully wedged underneath it. An owner of a sewn *sanbuq* would never lay the craft on its side and stress the stitching so unnecessarily.

Observers have long been fascinated by sewn

Frame fastened to hull; single-lashings of upper hull are visible. Photo by the author.



Framing pattern. After Bowen, *Primitive Watercraft*, 211.

vessels, once common throughout the Indian Ocean littoral. Two thousand years ago, Greco-Egyptian seafarers found such anomalous craft worth mentioning (*Periplus* 15.5.30, 16.6.4, 36.12.8–9). Marco Polo provided the lengthiest early commentary on sewn boats, which he viewed with distaste:

> *Their ships are wretched affairs, and many of them get lost; for they have no iron fastenings, and are only stitched together with twine made from the husk of the Indian nut [coconut]. They beat this husk until it becomes like horse-hair, and from that they spin twine, and with this stitch the planks of the ship together. It keeps well, is not corroded by sea-water, but it will not stand well in a storm.... They have no iron to make nails of, and for this reason they use only wooden treenails in their shipbuilding, and then stitch the planks with twine as I have told you. Hence 'tis a perilous business to go [on] a voyage in one of those ships, and many of them are lost, for in that Sea of Indie the storms are often terrible.*[58]

A longstanding debate concerning sewn construction centers on the technique's persistence into modern times, despite the perceived advantages of an iron fastened hull.[59] Procopius, the sixth century historian (*Aed.* 1.19.23–26), mentions an ancient legend that "there are certain rocks [in the Indian Ocean] which draw the [ship's] iron to themselves," but goes on to refute the tale, recognizing that Roman ships, which utilized nails, had no such problem. Others have claimed that some species of wood used in boatbuilding, such as benteak (*Lagerstroemia lanceolata*), made the process of driving in nails difficult, if not impossible.[60] This explanation is unlikely, for holes are always predrilled for fasteners. Furthermore, teak, another popular wood in ship construction, was suitable for iron fastenings.[61]

Ibn Jubayr, a twelfth century Islamic traveler, remarked in passing that only sewn — not nailed — craft plied the treacherous coastal waters of the Red Sea, for the sewn variety were

Transom of a *sanbuq*. Photo by the author.

more likely to survive encounters with reefs.[62] This explanation has more merit than some authors have previously accorded it. Coir fastenings, unlike their iron counterparts, would be weaker than, and therefore yield before, the wood of the vessel. Wood preservation and reuse is a priority along South Arabia's dry, desolate shore. Fishermen whom I interviewed repeatedly stressed the importance of regularly hauling their boats out of the water, since much of the South Arabian coast offers little protection from the surf of the Indian Ocean. Similarly, fishermen emphasized to Bowen the flexibility that enabled a sewn craft to withstand this process, even on a daily basis.[63]

Moreland and Hourani, scholars who have both dealt with Arabian seafaring and the sewn tradition, proposed a further economic incentive for this technique: coir was easily obtainable and inexpensive throughout the Indian Ocean littoral. They claimed that while iron nails did exist in India, the manufacturing process was extremely costly, and the nails did not last much longer than coir.[64] Coir simply made the vessels economically viable.

A final reason behind the persistence of sewn boatbuilding lies in the ease of repair and maintenance of such a craft — major concerns for any fisherman. Although more maintenance is required of a sewn craft, it may be easily repaired by its owner, no matter how remote the location, and with no specialized tools or materials.[65] Planks are also left undamaged by the task of replacing coir stitches. The sewn *sanbuq* I observed at Sira Bay had undergone many repairs by an unskilled hand and, occasionally, with monofilament fishing line as the binding. By contrast, removal and replacement of iron fastenings is a destructive, difficult, and expensive process. Prerequisites include boat repair facilities, specialized tools and experience, and a large supply of worked iron.

Despite the utility of coir sewn craft, craft of the Indian Ocean region changed quickly following Portuguese contacts in the sixteenth century.[66] Iron nails eclipsed coir lashings as indigenous shipbuilders sought materials strong enough to mount the ordnance that every European invader carried into the Indian Ocean.[67] In addition, new classes of dhows with transom

sterns sprang up in imitation of the transoms of the Portuguese, Dutch, and English vessels.[68] Large sewn vessels did not disappear. As recently as the early twentieth century, there were mentions of such craft in active service.[69] However, by the mid-twentieth century, the larger sewn craft had disappeared, and only small sewn fishing boats and surf boats continued to be built and used along the South Arabian coast.

Today, the construction of even small, sewn craft has ceased. The sewn *sanbuq* is disappearing more rapidly from Yemen's coasts than either the *khashabah* or dugout *huri*. Most of the remaining sewn *sanabiq* along Yemen's southern coast are at least fifteen years old. Many are now slowly decomposing along the shore, although some are still in active use, as evidenced by their gleaming coats of fresh fish oil.[70]

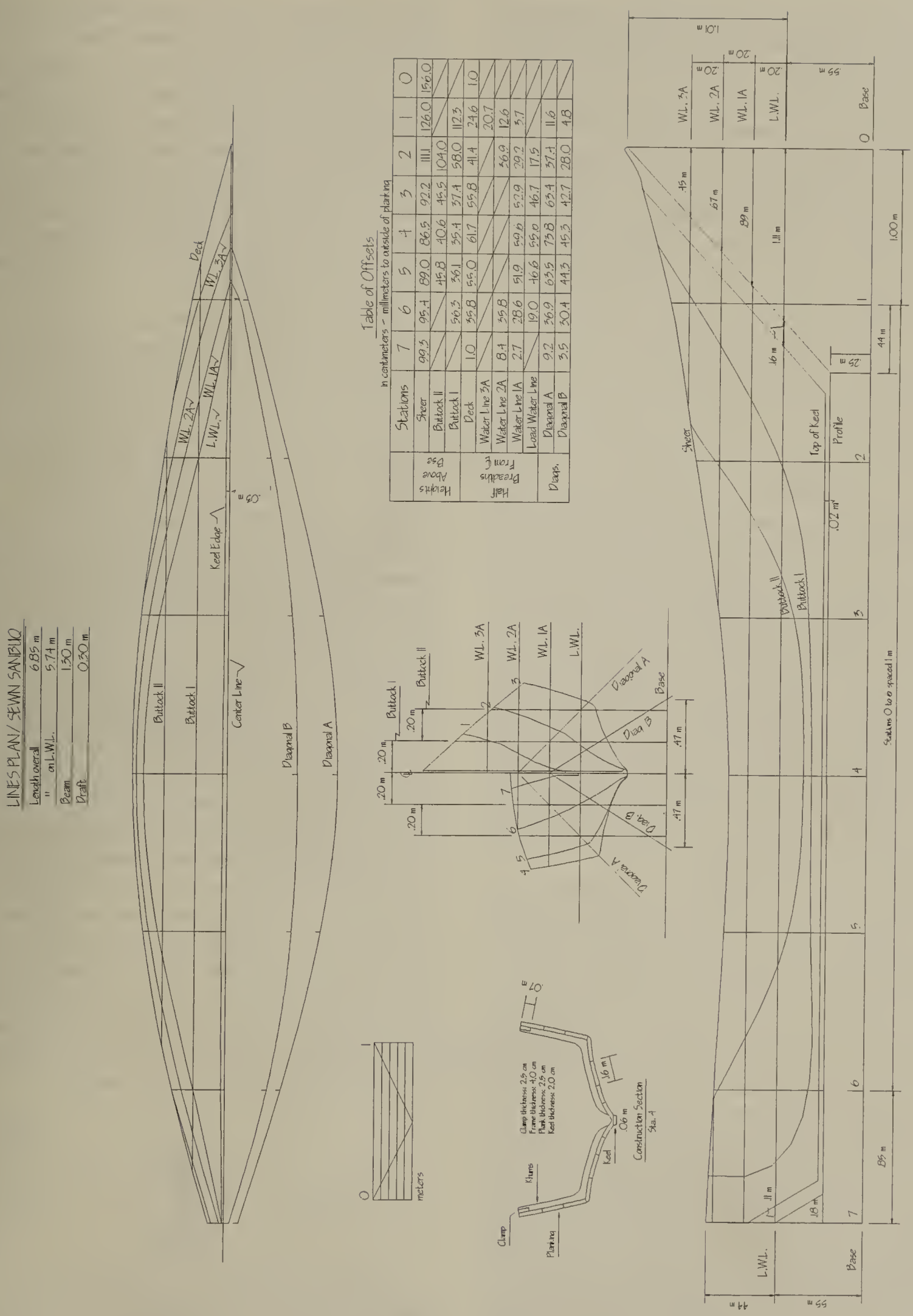
Construction of sewn *sanabiq* has ended only recently in Arabia. In a work on Yemen's Hadhramawt province, published in 1983, the authors devote seven pages of photographs to wooden boats and wooden boat construction in al-Mukalla and al-Shihr.[71] Several photographs detail the sewn method of construction still being practiced in al-Shihr in the late 1970s or early 1980s. Nevertheless, sewn construction has long been an endangered craft in Yemen. In the 1940s, Bowen believed that sewn construction existed only at al-Shihr, although locals had told him that the method had been practiced previously at Aden and al-Mukalla.[72]

Sewn construction has disappeared in al-Shihr, as an exhaustive personal search revealed. Inhabitants at al-Shihr claimed that they knew builders who had practiced this trade, but could not manage to produce any examples. Repeated inquiries led me only to a fiberglass *huri* production factory, of which locals were quite proud. Subsequent promises to meet a ship's carpenter familiar with the trade were left unfulfilled by the eruption of Yemen's civil war. In Oman, Facey and Bradley claimed that shipwrights familiar with the sewn tradition had "moved to modern carpentry shops to turn out prosaic windows and door frames."[73] That sewn boat construction is not practiced on Yemen's other coast — the Red Sea — makes this disappearance even more tragic, for it means that the sewn method has all but vanished in South Arabia.[74]

Yemen's two coasts have been shaped by divergent historical and political forces. Evidence of these differences may be observed in the status of indigenous boatbuilding along each coast. Wooden boatbuilding continues to flourish along Yemen's Red Sea coast, although none of the vessels described in this article are built in the Tihamah. Tihamese builders are focusing on plank built, iron fastened *huwari* and *sanabiq*. Currently, the shipwrights are able to maintain the economic viability of their profession.

Yemen's Gulf of Aden coast, by contrast, is almost entirely lacking in wooden boatbuilders. This coast and its hinterland were previously the domain of the Peoples' Democratic Republic of Yemen (PDRY), the only Marxist state in the Middle East. The PDRY, which became increasingly leftist following independence from British rule in 1967, destroyed the bases of power of the local merchant class and private entrepreneurs, seeking to nationalize all capitalistic industry.[75] PDRY's socialist government strove to modernize and collectivize the nation. As such, the traditional dhow trade and wooden boatbuilding were remnants of an antiquated past unsuited, in the view of the socialist leadership, for the twentieth century.

Following the mandates of a 1969 nationalization law, the PDRY sought to update its fishing fleet throughout the 1970s by purchasing modern steel trawlers and encouraging the use of fiberglass vessels.[76] PDRY's policy had the unfortunate effect of destroying not only the traditions and crafts of this area, but also the livelihood of thousands who relied on the employment provided by these trades. Many sailors and boatbuilders emigrated to other parts of Arabia, such as the Persian Gulf States, to continue their employment in the maritime and construction fields. Following unification and the aftermath of Operation Desert Shield/Storm, Yemeni expatriates returned to an area now



This is in all likelihood the only complete set of lines ever taken for this vessel type, which records the *sanbuq*'s design. Measurements for the lines drawing were taken in al-Shihr in March 1994, from a sewn *sanbuq* still in active use. Drawing by the author.

stripped of its tradition.[77] During this period, the Tihamah, uninfluenced by the ideals of socialism, poor, isolated, and under the rule of a conservative tribally based government, changed little. Builders continued to create craft in towns such as al-Luhayyah as they had for generations.

PDRY's socialist rule ended in 1990, when the country unified with the Yemen Arab Republic (YAR) to form the Republic of Yemen (ROY). In a recent civil war (May–July 1994), former PDRY leaders sought to reassert themselves. The pro-unity leaders of the ROY prevailed, and it appears that Marxist government has fled the Arabian Peninsula. Nevertheless, neither seafaring nor wooden boatbuilding will be revived along the southern coast. The impetus of national modernization continues. In addition, wood is an expensive and uncommon luxury in desolate South Arabia. Trucks and a coastal highway have displaced the coastal maritime trade, and steel freighters claim most of the Indian Ocean trade. Similarly, I observed flatbed trucks carrying fiberglass *huwari* to remote corners of southern Yemen. Economically and logistically, it is cheaper and simpler to transport a fiberglass *huri* overland or by sea to the distant regions of the southern coast than it is to supply the continuous demands of a wooden boatbuilding industry. Locally made fiberglass *huwari* are steadily replacing the remnants of South Arabia's sewn *sanbuq* fleet.

It is not only traditional Arabian craft that are disappearing, however. The boats are symbols, material victims of a trend in modernization that is also destroying their creators: traditional maritime culture. Fishing communities, more isolated and backward than well-traveled mariners, had managed to preserve their identities and belief systems well into the twentieth century. By contrast, seafarers and oceangoing dhows were affected quite early by European influences. Mariners altered the structure of their ships, forgot the teachings of famous Arabian navigators such as Ibn Majid, adopted European navigational tools, and eventually rejected the sail in favor of diesel engines. Now, widespread changes are becoming apparent even among the most isolated fishing communities.[78] These traditional societies are being displaced not only by more modern tools and techniques, but also by large foreign fishing corporations.

There is, unfortunately, no evidence that these changes have been beneficial to fishers, including those along Yemen's southern coast. Trawlers and the large firms that operate them over-fish regional waters and do not funnel money back into the local economy.[79] Local fishermen can hope only to compete with such opponents by adopting new technology and techniques themselves. New nontraditional foreign and local populations seeking employment and more fruitful fishing grounds intrude upon the remnants of these fishing communities, and customs, history, and lifestyles disappear. The traditional maritime culture, like its most concrete expressions — rafts, dugouts, and sewn vessels — is on the brink of extinction.

There is some hope that Arabia's maritime culture and representative models of the vessel types discussed in this article may be preserved before the last traditional fisherman dies and the last of these craft is reduced to a dried out hulk. Former seafarers from the town of al-Hami are attempting to construct Yemen's first maritime museum. These aging mariners recognize the importance of their heritage, but have little recognition or funding for their efforts. They hope to preserve examples of South Arabian vessels, seafaring instruments, and most importantly, their knowledge and customs. Although the acquisition of a *huri* or *sanbuq* is inexpensive by Western standards, the members of the society have little purchasing power with salaries that average less than five US dollars per day. Only the support of an external donor will help the society save the last of these craft before Yemen's harsh climate and relentless sun complete what the modern era has begun.

Edward Prados received his B.A. in International Studies from the College of William and Mary and an M.A. in Maritime History and

Nautical Archaeology from East Carolina University. In addition to engaging in extensive course work in Middle Eastern history and politics, his M.A. thesis focused on ancient Arabian seafaring and commerce. He has also explored medieval and early modern Arabian commerce at the graduate level. Professionally, he has worked for the American Educational Trust, a nonprofit Middle East awareness organization, and the Center for Naval Analyses on a project documenting post-Desert Storm levels of US presence in the Persian Gulf. In 1993–94, he was awarded a Fulbright Grant to conduct an underwater archaeological project and ethnographical/technological analyses of traditional maritime employ in Yemen. Currently, he is employed as a historian by the United States Navy Memorial Foundation. He has had training in Arabic, computer aided design, boatbuilding, and sailing.

Credits

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Notes

1. Included among Bowen's writings in *American Neptune* are: "Arab Dhows of Eastern Arabia," 9 (April 1949): 87–132; "The Dhow Sailor," 11 (July 1951): 161–202; "Primitive Watercraft of Arabia," 12 (July 1952): 186–221; "Eastern Sail Affinities, Part II," 13 (July 1953): 185–211; "Maritime Superstitions of the Arabs," 15 (January 1955): 5–48; "Origin and Diffusion of Oculi," 17 (October 1957): 262–291.
2. Robert Stookey, *South Yemen: A Marxist Republic in Arabia* (Boulder: Westview Press, 1982), 11–12.
3. Most sources spell the term "*sambuq*" or "*sambuk*." Bowen, "Primitive Watercraft," 212 and R. B. Serjeant, *The Portuguese off the South Arabian Coast* (Oxford: Clarendon Press, 1963), 133, 135–6, however, claimed that the actual word is "*sanbuq*." Bowen and Serjeant are correct; the medial "n" and terminal "q" are more appropriate (Elias A. Elias, *Elias' Modern Dictionary: Arabic–English*, 9th. ed. (Cairo: Elias' Modern Press, 1962), 318. Nevertheless, Yemeni boatbuilders with whom I talked colloquially

referred to the craft as a "*sambuq*." Dr. George Atiyeh, Director of the Library of Congress' Near East Department, notes the similarity of the "m" and "n" in Arabic. There are cases where the consonants may be easily juxtaposed, especially in colloquial speech. Additionally, according to Serjeant, *sanbuq* may be spelled with a "hard" initial "s," and the first vowel may also be pronounced as "u." This note answers a query put forth by W. A. King-Webster, "Sambuks or Sanbuks?" in the 1956 edition of *Mariner's Mirror*.

4. *Periplus* (15.5.30, 16.6.4, 36.12.8–9), a first century trading manual written by an anonymous Greco-Egyptian mariner, mentions the existence of both dugouts and sewn boats 2,000 years ago in the Indian Ocean littoral. *Periplus Maris Erythraei*, trans. Lionel Casson (Princeton: Princeton University Press, 1989). Rafts greatly predate either dugouts or plank sewn craft.
5. R. B. Serjeant, *The Portuguese off the South Arabian Coast*, 2nd ed. (Beirut: Librarie du Liban, 1974), 134.
6. Francine Stone, ed., *Studies on the Tihamah: The Report of the Tihamah Expedition 1982 and Related Papers* (London: Longman, 1985), 126–127; Bowen, "Primitive Watercraft," 192–193.
7. Paul Johnstone, *The Sea-Craft of Prehistory* (Cambridge: Harvard University Press, 1980), 7–9.
8. For further information on *khashabah* fishing, see Stone, *Tihamah*, 126.
9. Clifford Hawkins, *The Dhow* (Lymington: Nautical Publishing Company, 1977), 137.
10. Sir Alan Moore, *Last Days of Mast and Sail: An Essay in Nautical Comparative Anatomy* (Oxford: Clarendon Press, 1925; reprint, Camden, ME: Marine Publishing, 1970), 134.
11. Serjeant, *Portuguese*, 133; Moore, *Last Days of Mast and Sail*, 132.
12. The word "dhow," as employed by Westerners, is a generic term that describes the various classes of lateen rigged wooden hulled Indian Ocean sailing vessels. The word seems to have evolved in European usage from a more specific term, *dau*, which described a small double-ended East African vessel. The etymology of the Swahili word *dau* is uncertain. A. H. J. Prins, *Sailing from Lamu: A Study of Maritime Culture in Islamic East Africa* (Assen: Van Gorcum, 1965), 78.
13. T. M. Johnstone and J. Muir, "Some Nautical Terms in the Kuwaiti Dialect of Arabic," *Bulletin of the School of Oriental and African Studies* 27 (1964): 322; Gerhard Kapitan, "Records of native craft in Sri Lanka — I: The single outrigger fishing canoe *oruwa* — Part 1.1 Sailing *Oru*," *International Journal of Nautical Archaeology* 16.2: 135–147.
14. Bowen, "Primitive Watercraft," 198; James Hornell, "A Tentative Classification of Arab Sea-Craft," *Mariner's Mirror* 28 (January 1942): 30.
15. *Ibid.*
16. *Ibid.*
17. Johnstone, *Sea-Craft*, 50–51; Lionel Casson, *Ships and Seafaring in Ancient Times* (Austin: University of Texas Press, 1994), 12.
18. Alan Villiers, "Sailing with the Arabs," *Mariner's Mirror* 47 (November 1961), 245, Fig. 3; *Sinbad*, xvii, 9. This practice was also used in East Africa; Denis Palmer, "Seamen of the Indian Ocean," *Geographical Magazine*4 (February 1937), 240; Prins, *Sailing from Lamu*, 90, Plate 57.
19. Medieval Islamic traveler Ibn Jubayr claimed: "The oil of the *qirsh* [shark]...is best." *Travels*, 65.
20. Villiers, *Sinbad*, xvii.
21. This *huri* features stern projections similar to those found on the now extinct *baghala*, a dhow strongly shaped by European influences. According to Hornell, the stern projections were "undoubtedly derived from the quarter galley of the line-of-battle ships of the eighteenth century." Hornell, "Arab Sea-Craft," 15.
22. Clifford Hawkins, "Ghost Ships in the Gulf," *Aramco World Magazine*, March–April 1975, 32.
23. Although the shape of the two rudders is different, they rely on the same mechanical principles. Richard LeBaron Bowen Jr., "Early Arab Ships and Rudders," *Mariner's Mirror* 49 (November 1963), 303–304.
24. A Greek named Anacharsis (ca. BC 600) supposedly invented the grapnel anchor. Richard LeBaron Bowen Jr., "Arab Anchors," *Mariner's Mirror* 43 (November 1957), 288, 293.
25. H. J. Carter, "Geography of the Southwest Coast of Arabia," *Journal of the Bombay Branch of the Royal Asiatic Society* 3 (1851), 270; Theodore Bent, *Southern Arabia* (London: Smith, Elder, 1900); Bowen, "Primitive Watercraft," 201–215; Alan Villiers, *Sons of Sinbad* (New York: Charles Scribner's Sons, 1969), 65; William Facey and Esmond Martin Bradley, *Oman: A Seafaring Nation* (Muscat: Ministry of Information and Culture, 1978), 112, 146, 154–5, 176. In 1980, a Somali *beden*, a vessel similar to the sewn *sanbuq*, was reported as still being manufactured in East Africa. Neville Chittick, "Sewn Boats in the western Indian Ocean, and a survival in Somalia," *International Journal of Nautical Archaeology and Underwater Exploration* 9 (1980), 297–309.
26. Bowen, "Primitive Watercraft," 220–21. *Periplus* (36.12.8–9) mentions that sewn boats were exported to Arabia from Omana which, contrary to the impression created by its name, was located on the coast of contemporary Pakistan (historically a part of India). *Periplus* makes no mention of indigenous Arabian sewn craft being produced at that time.
27. Facey and Bradley, *Oman*, 146, 176.
28. Bowen, "Primitive Watercraft," 201.
29. *Ibid.*, 201–2.
30. *Ibid.*, 212.
31. *Ibid.* Serjeant, *Portuguese*, 134, claims that a vessel known as the *ibri sanbuq* was found in the vicinity of al-Mukalla. I am working on an article documenting *sanbuq* evolution.
32. King-Webster and Facey/Bradley classify the craft as "sewn *sambuqs*." King-Webster, "Sambuk or San-

buk?", 85; Facey and Bradley, *Oman*, 154–56.

33. Bowen, "Primitive Watercraft," 201; Villiers, *Sons of Sinbad*, 69.
34. What little boatbuilding I observed in Aden closely mimicked the techniques employed by Tihamese builders.
35. "Hung" is the Western term for attaching planks to a vessel. Since a sewn *sanbuq*'s planks were not attached to frames, but to each other, I have decided to avoid the term.
36. Bowen attributes the origins of this construction features to ancient Egypt. "Primitive Watercraft," 209.
37. Oblique treenailing is still practiced at the Red Sea town of Katabah, although builders do not employ stitched construction.
38. Mohammed Zaki Nour, et. al., *The Cheops Boat*, Part I, Antiquities Department of Egypt (Cairo: General Organization for Government Printing Offices, 1960), 48; Casson, *Ships and Seafaring*, 12.
39. Marco Polo *Travels* 1.19. Moreland did not see treenails in two dhow models at the Greenwich Maritime Museum. Most likely, the craftsman omitted these details, for Arab builders did indeed use treenails in ship construction. "The Ships of the Arabian Sea about A.D. 1500, Part I." *Journal of the Royal Asiatic Society of Great Britain and Ireland* (January 1939), 66, 73.
40. Timothy Severin, *The Sindbad Voyage* (Norwalk: Easton Press, 1988), 58. Severin directed the construction and voyage of a sewn *bum* from Oman to China in the early 1980s.
41. Ibn Jubayr, *Travels*, trans. R. J. C. Broadhurst (London: The Camelot Press, 1952), 65; Marco Polo *Travels* 1.19. Severin found that the best coir was obtained from the Laccadive Islands. Severin, *Sindbad Voyage*, 41.
42. James Hornell, "The Sea-Going *Mtepe* and *Dau* of the Lamu Archipelago," *Mariner's Mirror* 27 (1941), 60–61.
43. Severin, *Sindbad*, 42.
44. The synthetic batting material is much thinner in cross section than the earlier organic batting, and, as a result, lies almost flush with the planks.
45. Severin, *Sindbad*, 41.
46. Bowen, "Primitive Watercraft," 209; Hornell, "*Mtepe* and *Dau*," 61.
47. Bowen, "Primitive Watercraft," did not mention that single lashings were employed in sewn *sanbuq* construction. In Plate 18.4, it seems that continuous stitching was used throughout; but in other figures (esp. Plates 18.1, 19.1, 19.3), it is clear that continuous plank stitching did not progress completely to the sheer.
48. Hourani, *Arab Seafaring*, Plate 7. There are a number of pictures that predate this figure. However, none show plank stitching as clearly as the *Maqamat*. For a group of early illustrations, see David Nicole, "Shipping in Islamic Art — Seventh through Sixteenth Century A.D.," *American Neptune* 49 (Summer 1989), 168–197.
49. Severin, *Sindbad*, Plate 2.
50. Given that most suitable boatbuilding timber and coir cord was imported from India to Arabia, it is likely that associated nautical construction techniques also originated in the subcontinent.
51. Neither pre-twentieth century nor contemporary Yemeni boatbuilders employ rabbets. Planks are either butted or their hooded ends are inserted into distinctive grooves at stem, stern, and keel.
52. Bowen, "Origin and Diffusion of Oculi," *American Neptune* 17 (October 1957), 284, claims oculi in the Indian Ocean were brought to the region by the Romans; Quigley, "The Origin and Diffusion of Oculi: A Rejoinder," *American Neptune* 18 (1958), 56–58, disagrees, stating that maritime oculi were Arab or Phoenician in origin.
53. Bowen, "Primitive Watercraft," 210.
54. Villiers claimed that the sewn *sanabiq* were painted in his era; Bowen said *sanabiq* were only painted when used as a ship's longboat, but not for fishing. Villiers, *Sons of Sinbad*, 65; and, Bowen, "Primitive Watercraft," 212.
55. Bowen, "Primitive Watercraft," 215–20; Villiers, *Sons of Sinbad*, 65. I did not observe squaresails in use in Yemen; contemporary *huwari* use lateen rigs.
56. Bowen, "Eastern Sail Affinities," 187.
57. Villiers, *Sons of Sinbad*, 65.
58. Marco Polo *Travels*, 1.19. The Latin version of Marco Polo's *Travels* claimed that vessels were built with coir because local shipbuilding timber would split if nails were driven into the wood. Moreland, "Ships," 183.
59. Bowen argues that size was not a limitation of stitched vessels; however, they did require more upkeep and were less secure in the open sea. *Arab Dhows of Eastern Arabia* (Rehoboth, MA: Privately printed, 1949), 21.
60. W. H. Moreland, "The Ships of the Arabian Sea about A.D. 1500, Part II," *Journal of the Royal Asiatic Society of Great Britain and Ireland* (April 1939), 185, 190.
61. *Ibid.*, 184–85.
62. Ibn Jubayr, *Travels*, 65.
63. Bowen, "Primitive Watercraft," 201.
64. George Fadlo Hourani, *Arab Seafaring in the Indian Ocean in Ancient and Early Medieval Times* (Princeton: University Press, 1951), 94; Moreland, "Ships of the Arabian Sea," 188–90.
65. The *mtepe*, for example, had to be disassembled and reassembled with new coir fastenings every year. Hornell, "*Mtepe* and *Dau*," 55.
66. Bowen, *Arab Dhows*, 19–21; T. M. Johnstone and J. Muir, "Portuguese Influences on Shipbuilding in the Persian Gulf," *Mariner's Mirror* 48 (February 1962), 58–63; and, Moreland, "Ships of the Arabian Sea," 173–92.
67. Johnstone, *Sea-Craft*, 179; Johnstone and Muir, "Portuguese Influences," 59.

68. Johnstone, *Sea-Craft*, 179. Lateen sails remained the mainstay of Arabian dhows, in contrast to the square rigs that most European craft mounted.
69. Hornell, "*Mtepe* and *Dau*," 54–66; Hornell, *Water Transport: Origins and Early Evolution* (Cambridge: Cambridge University Press, 1946; reprint, London: David and Charles Publishers, 1970), 235; "A Master Mariner," "Round the Coasts of Arabia in a Dhow," *Blackwoods Magazine* 238 (July 1935), 38–39.
70. David Goddard, "Exeter Maritime Museum: The Museum of the Evolved Boat," *Mariner's Mirror* 71 (1985), 210, noted that the Museum has not yet acquired a sewn vessel of Arabia. If such is still the case, now might be a good time to acquire and preserve one.
71. Karl-Heinz Bochow and Lothar Stein, *Hadramaut: Geschichte und Gegenwart einer südarabischen Landschaft* (Leipzig: VEB F. A. Brockhaus Verlag, 1983), 154–60.
72. That Bowen did not have the opportunity to witness sewn construction demonstrates the method's scarcity even by mid-century. "Primitive Watercraft," 202, 204.
73. Facey and Bradley, *Oman*, 176.
74. If African builders continue to manufacture the Somali *beden* (the region currently is not accessible to researchers), this craft is likely the last survivor of sewn construction in the entire Western Indian Ocean littoral. Chittick, "Sewn Boats," 297–309.
75. Helen Lackner, *PDR Yemen: Outpost of Socialist Development in Arabia* (London: Ithaca Press, 1985), 149–51.
76. Lackner, *PDR Yemen*, 193–97; Stookey, *South Yemen*, 12.
77. Yemen supported Iraq in the dispute. As a result, over a million Yemeni workers were expelled from Saudi Arabia and the Persian Gulf States. Relations with the United States also suffered.
78. Peter Reeves, Franz Broeze, and Kenneth McPherson, "The Maritime Peoples of the Indian Ocean Region Since 1800," *Mariner's Mirror* 74: 248, 251.
79. *Ibid.*, 251–2.

The Francis B. Lothrop, Jr. 1995 Award

Winner of the Francis B. Lothrop, Jr. 1995 Award for the best article published in *The American Neptune* Volume 55 (1995) is Paul E. Fontenoy's *An "Experimental" Voyage to China 1785–1787.* Based on fresh research and anchored in the rich literature of American trade to Asia, this lucid and well-illustrated essay explains the problems and successes of American exporters to the China market. In the view of the assessors, this is an article well worthy of the award.

Next year, we hope to be able to grant a parallel award in the field of Maritime Arts and, in addition, one in the field of Maritime Modeling. These awards are offered to encourage authors to explore the varied aspects of maritime history and arts.

Barry M. Gough
Editor-in-Chief

The Introduction of the Revolving Turret

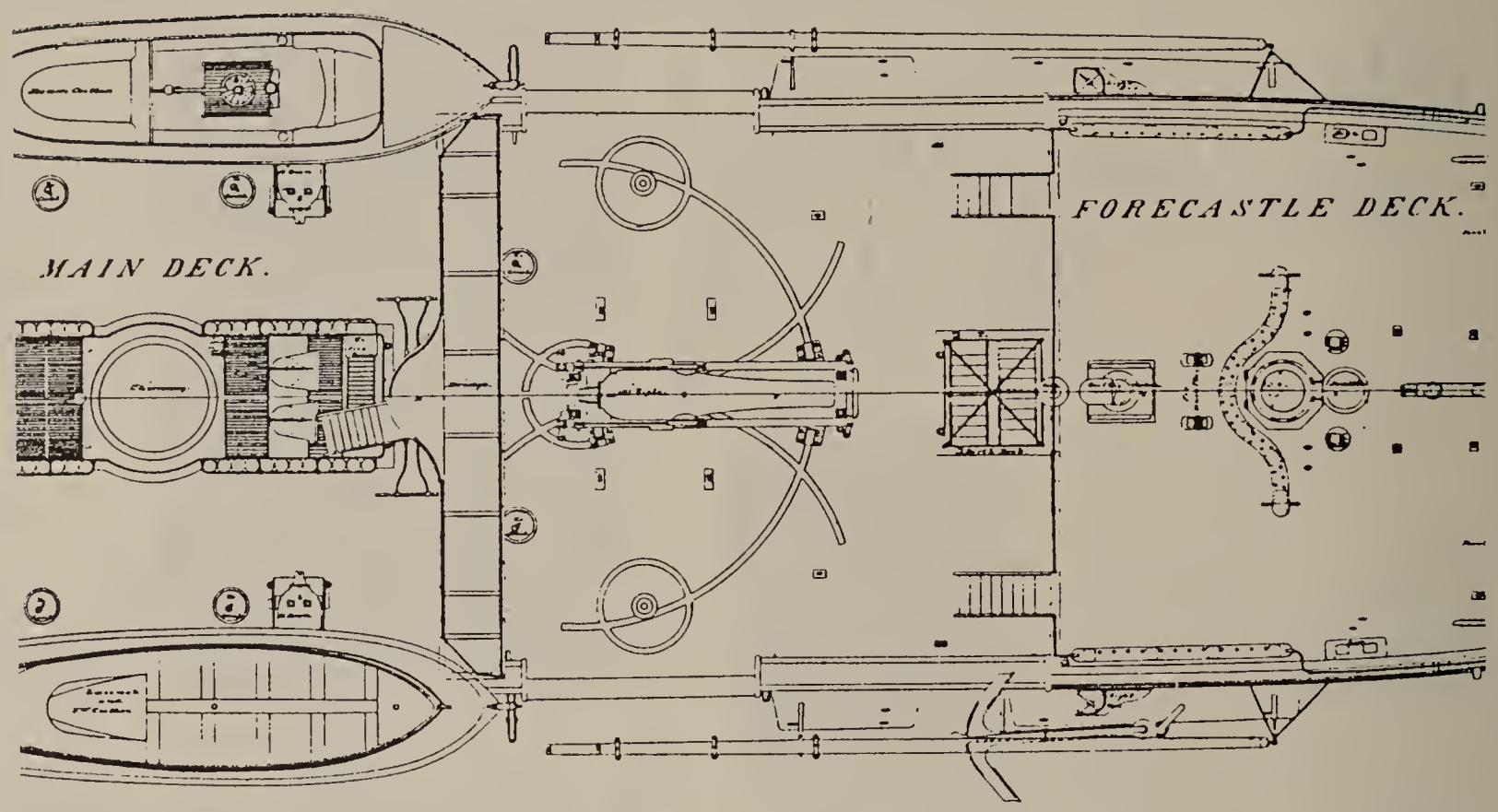
ARNOLD A. PUTNAM

In 1992, the last big-gun turret warship, the battleship USS *Missouri*, was placed in mothballs. The battleship turret combined heavy protective armor and large caliber ordnance to destroy other battleships at long range and to render coastal fortifications untenable. This type of vessel was a mainstay in international naval armament from the 1870s to the 1940s, when it was superseded by the aircraft carrier and submarine. The development of the turret concept began in the 1860s, but has been largely overlooked until recently.

Arguments over who invented the revolving turret have been long and inconclusive. The concept — to provide a wide arc of fire and protection to the gunners — had been on the minds of many for years. Abraham Bloodgood exhibited a model of a floating circular revolving battery in 1807. He stated: "Its rotary motion would bring all its cannon to bear successively, as fast as they can be loaded, on objects in any direction. The men would be completely sheltered from the fire of the elevated parts of an enemy's ship. The battery might be made so strong as to be impenetrable to cannon shot, &c."[1] Several years later, in 1812, John Stevens proposed a circular iron-plated vessel for harbor defense. Stevens' warship would be turned so that a tier of guns arranged about the perimeter could fire individually as they were brought to bear on a target.[2] In 1843, Theodore R. Timby of New York demonstrated his revolving turret design for land fortifications. His turret consisted of three tiers of armor protected cannon which rested on rollers and revolved about a central column. Fire was directed by an observer on a fixed armored observation point at the top of the turret. As in Bloodgood's and Stevens' vessels, each individual gun would fire as it was brought to bear on a target.[3]

The introduction of armor on fighting ships in the mid-nineteenth century raised grave questions among naval architects regarding stability, decreased buoyancy, and speed. At the same time, providing protection for the hull, boilers, machinery, guns, and crew was of paramount importance to the designers. These concerns, especially those regarding guns and gun crews, served to focus attention on the traditional broadside and the more recently developed pivot arrangement of using ordnance at sea.

The broadside had been a standard method of naval construction since the sixteenth century. It consisted of one or more tiers of guns arranged on both sides of a warship designed to deliver a massive weight of fire against an opposing vessel. Many warships, especially the larger ships-of-the-line, had as many as four tiers of guns. As the weight of individual guns increased, strengthening the gun deck and maintaining the stability of the ship created formidable structural problems for naval designers. In addition, the entire vessel had to be maneuvered to bring the batteries to bear as each gun could traverse only over a small arc of fire. With the coming of the nineteenth century, this



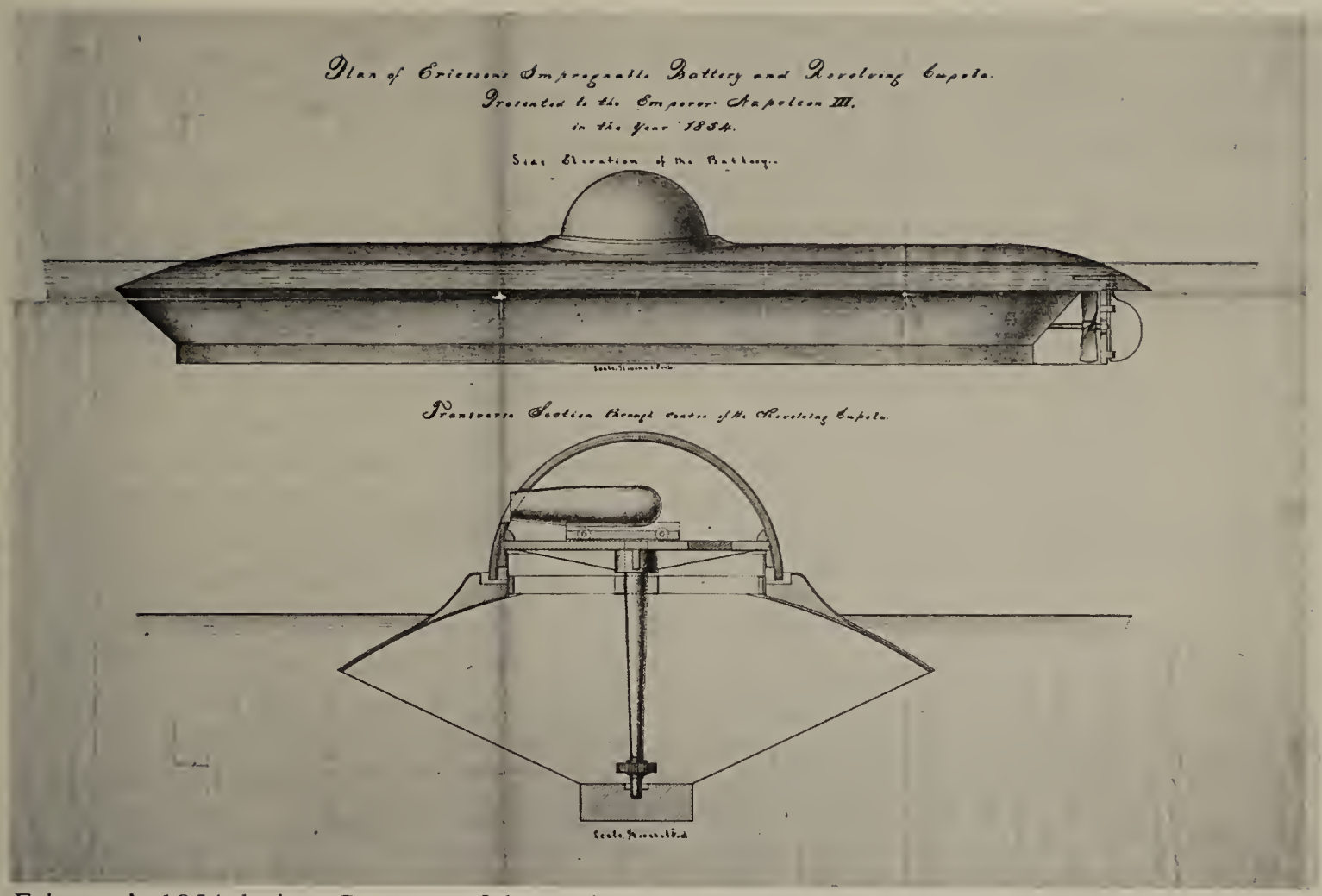
USS *Kearsarge* pivot gun. Courtesy of the National Archives, Record Group 19.

concern with weight of armament and arc of fire led naval designers to experiment with pivot guns.

The development of the pivot gun began in the latter half of the eighteenth century, reaching its height during the War of 1812. One large gun, firing a heavy projectile at greater range, could be used more effectively than two lighter guns mounted broadside on each side of the ship. The heavy gun and carriage were mounted on two parallel tracks, or "skids," joined by three or more cross members. The gun, carriage, and skids were rotated around a metal bolt, which passed through the central cross member and a metal collar in the ship's deck. The gun was normally stowed amidships when not in use. When preparing for action, the gun and mount were rotated about the central pivot bolt to either port or starboard.[4] The cannon was then loaded, run out, fired, and recoiled back along the skids. On later vessels such as the *Kearsarge*, the central pivot bolt was removed after the gun was rotated. The bolt was then reinserted through the forward cross member and into a designated metal collar in the deck on the side from which the gun was to be fired.[5] This allowed for ease of traversing gun and mount over a wide arc.

Pivot guns solved the stability and design problems of carrying heavier ordnance aboard a smaller ship. The arc of fire, although increased to seventy degrees, remained unsatisfactory. The entire vessel still had to be turned if fire was to be directed at a target fore or aft. This contained arc of fire was due to the masts and rigging, which were still in use even after the introduction of steam power.[6] Sails were a necessity, because steam engines of the day were frequently unreliable and coal storage capacities were limited on warships.

Another old problem remained: protection for the gun and gun crew under fire. Gun crews aboard wooden ships faced serious injury or death from enemy shot and flying debris. When projectiles struck wooden ships, timbers and planks often exploded into splinters which could cut a man in half. By armor plating ships and having the guns fire through embrasures cut in the plating, protection for both the gun and gun crews could be increased. Unfortunately, the embrasures reduced the arc of fire while leaving



John Ericsson's 1854 design. Courtesy of the National Archives, Record Group 19.

a large opening through which hostile fire could readily pass. The solution to this dilemma lay in combining the pivot concept with protective armor in the form of the revolving turret. Turret designs by John Ericsson of the United States and Captain Cowper Phipps Coles of Great Britain were the first to achieve practical use in their respective navies. Ericsson's design was initially more successful and the first to be tested under actual battle conditions.

The American Civil War presented a series of naval problems, requiring vessels of a unique design. Blockading of Southern ports and coastal amphibious landings were undertaken by Union forces, both to close off the Confederacy from overseas commerce and to provide advanced bases for operations. This involved movements of troops and ships into the sounds and rivers of the Southern coast. At the same time, Federal troops were also moving up the tributaries of the Mississippi River. Most of these waters were confined areas, making it difficult to bring broadside guns to bear effectively. In addition, most of the coastal and inland waterways of the South were extremely shallow, limiting the draft of warships.

The Confederacy developed a class of casemated ironclad rams that, in addition to fortifications, presented a serious threat to any wooden-hulled Union ship. These vessels were designed to operate in defense of harbors and inland waters rather than the open ocean. Ericsson met these challenges by dusting off a design he claimed to have presented to Napoleon III, Emperor of France, in 1854.[7] He upgraded that design for a vessel using a single armored revolving turret with extremely low freeboard to reduce the amount of armor required for hull protection. The resulting *Monitor* would receive her successful baptism of fire at Hampton Roads, Virginia on 9 March 1862. Before the war ended, there would be fifty-two coastal *Monitor*-type vessels in service or under construction by the United States Navy.

In describing the *Monitor* on 22 March 1862, *The Scientific American* stated: "The principal novelty of this vessel is the cylindrical revolving turret in which the guns are placed."[8] This turret

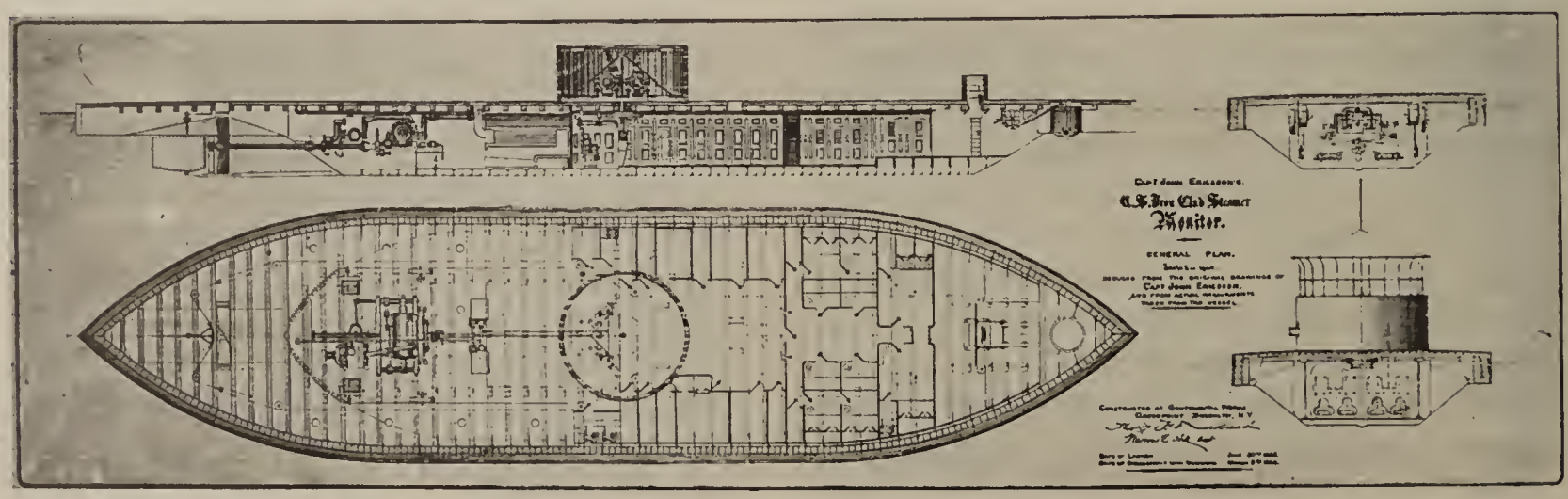
was 9' high, had a 20' inside diameter, and consisted of eight 1" layers of rolled iron plate bolted together. For structural strength, these plates were so arranged that no two seams were overlapping. Later monitors, such as the *Passaic* and *Dictator*, had larger turrets and more plating. The former had an inside diameter of 21' with 11" of plating, while the latter had a 24' inside diameter with 15" of plating. Two forged central cross beams, one at the bottom and another 10" below the top of the turret, were installed at right angles to each other. These beams were so shaped as to allow a 12" diameter central column to fit up through a collar at the center of the beams.

The central beams supported the weight of the turret. They rested on two bearings, one beneath each beam, which formed part of the column. Running parallel to the bottom central beam was a pair of smaller beams on either side of the column that served as support and slides for the guns.[9] The turret roof was composed of eight crossbars, four on each side, running perpendicular from the upper central beam to the side of the turret, forming a frame covered by a layer of evenly spaced railroad iron bars to provide protection from plunging shot. A 0.5" covering of iron plate was placed over the railroad iron. Evenly spaced holes, 1" in diameter, were drilled through this plating to allow smoke from gunfire out and fresh air into the turret. A pair of ports were cut into the side of the turret as embrasures for the guns.

Ericsson's 1854 drawing showed the turret resting both on the deck and the central column. The gun platform consisted of a turntable upon which sat the guns and a protecting hemispherical turret. This, in turn, rested upon the top of, and was rotated by, a central column rising from the bottom of the vessel. The *Monitor* retained this concept, but the central column was extended up through the gun platform to the roof of the now cylindrical turret. Later designs would have the column extend through the top of the turret. At the top of the column, held in place by a clutch cut into the column, was a non-rotating pilot house. The two bearings in the column, which supported the turret, also served as the pivot upon which the turret revolved.

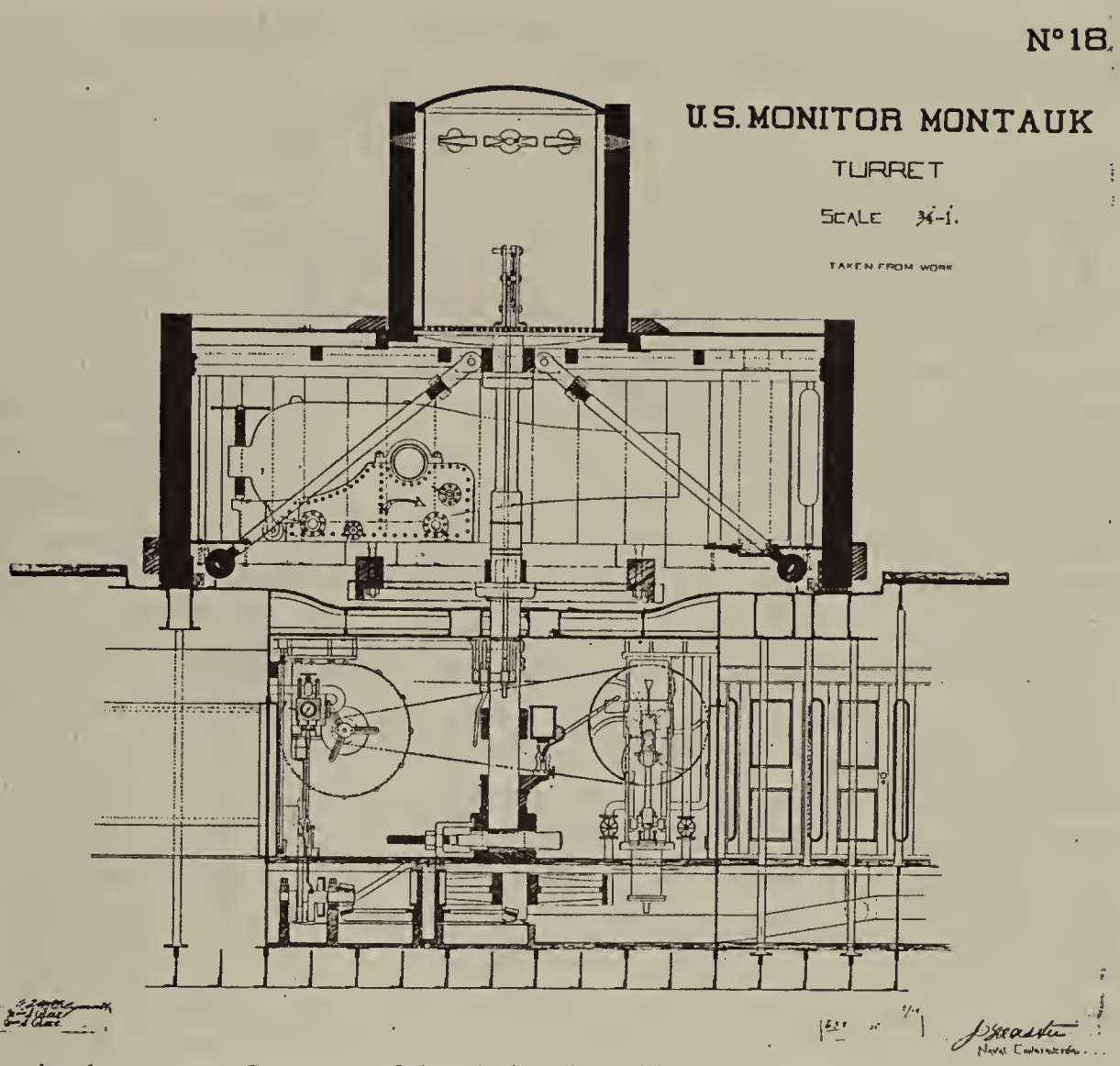
Assistant Secretary of the US Navy Gustavus Fox, writing to Ericsson concerning the *Monitor* on 19 December 1861, thought that the turret was to "bear and traverse on rollers," in addition to being supported by the central column. The initial specifications for the *Monitor*'s turret had called for its "weight being supported either by the said axile [*sic*], or by a series of steel rollers under its circumference." Considering that the *Monitor*'s turret, exclusive of guns and crew, weighed more than 120 tons, it is not surprising that he thought rollers would be used.[10]

Monitors were not designed to be cruising warships, but they had to be able to move between Federal ports and along the Southern coast.[11] Their low freeboard — 9" for the *Monitor* — led to the main deck being awash in all but the most placid seas. In order to revolve, the turret had to be raised slightly, creating a space between the bottom of the turret and the monitor's deck. Such a space, however small, would open a gaping hole in the center of the ship. In seas of more than 2', seawater washing across the



USS *Monitor*. Courtesy of the Library of Congress.

deck would rush in under the turret and down into the hull below. To solve this problem, Ericsson attached a bronze ring to the bottom of the turret, which in turn rested on another ring built into the deck of the vessel. With proper planing and grinding, a seal was formed between the two rings, which prevented water from flowing under the turret.[12] When revolving the turret, the central column, turret, and pilot house were all raised by means of a taper key, or "turret step." This consisted of a sliding wedge, hammered and pulled under the base of the column by tightening a nut attached to a bolt, forming an extension to the sliding wedge. When the ship went into action, the nut was tightened, pulling the wedge under the column to raise it. At the end of combat, the turret would be revolved to a predetermined position and the nut loosened, allowing the wedge to be driven out, and the turret would be slowly lowered back down on the deck.[13] This would reform the watertight seal.



Passaic class turret. Courtesy of the National Archives, Record Group 19.

This seal, however, was not perfect. Former cabin boy Alvah Hunter in his description of the *Passaic* Class Monitor *Nahant* wrote:

> *When the turret was to be revolved, it was lifted up a half-inch from the packing in the groove in the deck in which it rested when not in use, an ingenious mechanism having been devised for lifting the huge bulk, guns and all. An engine in the turret-chamber, geared to a huge wheel on the underside of the turret, turned the turret to the right or left as ordered, until the guns bore upon the target. When we went to sea, the turret was let down until it rested upon a firm packing in the groove in the deck, which packing was suppose to exclude the water which was constantly washing over the deck when there was any sea running. As a matter of fact this packing didn't wholly exclude the water, and caulking of the narrow space about the base of the turret was resorted to whenever we were going a distance at sea.*[14]

The turret rotated by means of a pair of steam engines located at right angles to one another in the turret chamber. These engines drove a series of gears, at the end of which was a massive cog wheel bolted to the underside of the turret. They were controlled mechanically inside the turret by the Gun Captain, and could be reversed and turned clockwise or counter-

clockwise for aiming purposes. It took sixty seconds to make one complete revolution.

The primary function of the turret was to bring the ship's guns to bear on a target at any point on the compass. While it was desirable to have a full 360° arc of fire, the vessel's smokestack and ventilator limited the angle to 350°. The original *Monitor*, unique in having a telescoping stack and ventilator, could fire in all directions except directly forward, where the pilot house was located. It was to allow for forward fire that the pilot house was moved to the top of the turret in later designs.

A pair of 11" Dahlgrens made up the armament of the original *Monitor*. The standard armament of later monitors was the 11" and 15" Dahlgren muzzle-loading smoothbores, although some monitors were also armed with a 150-pounder Parrott rifle in addition to a Dahlgren. Each of the 15" guns, without carriages, weighed twenty-one tons. The never-completed *Puritan* was to have been armed with a pair of mammoth 20" smoothbores.[15]

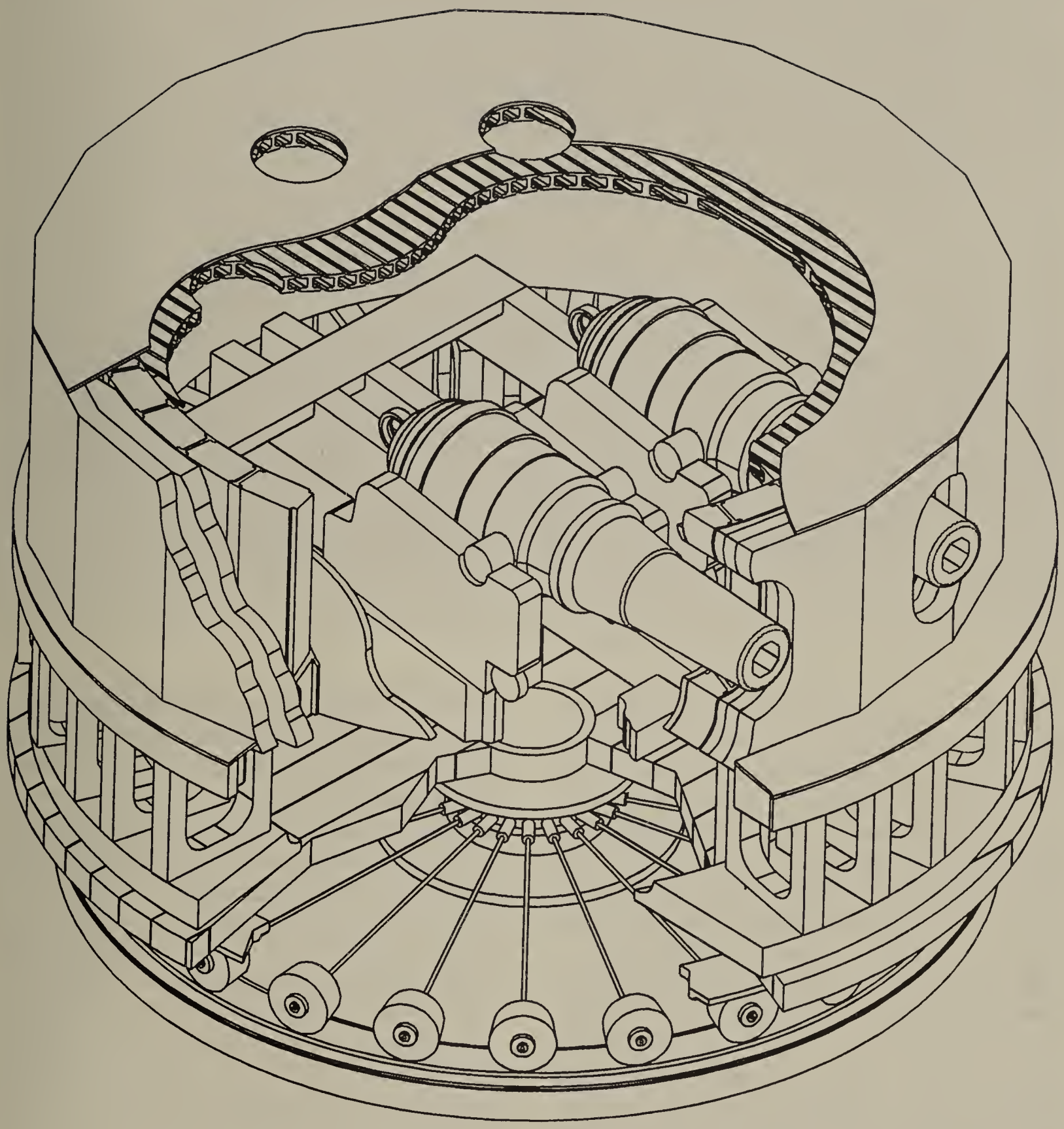
Ericsson's turrets provided complete protection for the gun crews and machinery while under fire. Due to limited space within the turret, reloading the guns proceeded slowly, which rendered a correspondingly slow rate of fire: approximately five minutes per round. In addition, the turrets, as installed on the monitors, could not be used in combat on the open ocean. The only instance of a monitor turret being left up on the high seas nearly resulted in the loss of the vessel. The crew of the *Passaic*, during the voyage from Hampton Roads to Beaufort, North Carolina in 1862, neglected to completely lower the turret. It had been left up approximately ⅛" and, despite the desperate measures of the crew, was only lowered slightly. The vessel just managed to keep from sinking. Commander Percival Drayton would later write that the turret must be down, "Which I now know to be absolutely necessary for safety before going outside."[16] During the ocean voyages of the *Monadnock* around Cape Horn to San Francisco and the *Miantonomoh* to Europe, both in 1866, neither vessel raised its turrets for demonstration purposes or practice fire except in port.[17]

By 1865, the United States had built six "seagoing" turreted ironclads. These included the steam frigate *Roanoke*, converted to a triple-turreted ironclad, as well as construction of the single-turreted monitor *Dictator* and four double-turreted monitors of the *Monadnock* Class. These ironclads were "seagoing" in name only. Although they could cross the Atlantic — which the *Miantonomoh* had done in 1866 — none attempted the voyage under its own power.[18] The United States, due to indifference and budgetary constraints, would not possess a turreted warship capable of conducting open ocean operations until the 1890s. It would remain to the naval constructors of Great Britain to develop a true ocean-going turreted warship.

On the other side of the Atlantic, the British Navy was evolving rapidly from a wooden-hulled fleet to an ironclad steam-powered fleet. The 34-gun *Warrior* and the smaller *Defense*, both broadside armored ships, were launched in 1861. Although not at war, Great Britain maintained a large and modern fleet to protect its global empire. Armored warships that could operate effectively in conditions found in the English Channel, the Mediterranean, and North Seas, as well as the major oceans of the world were vital to this task.

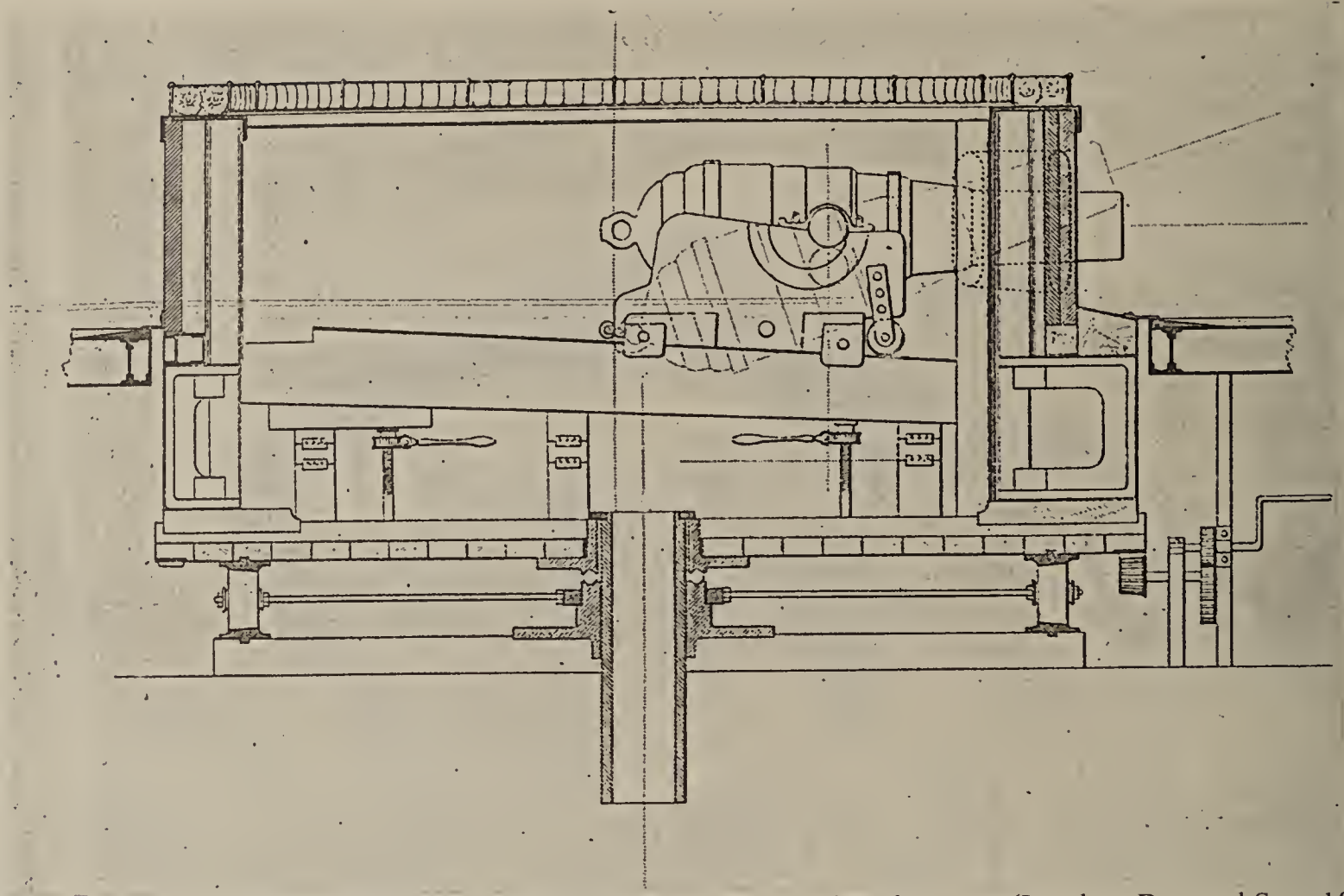
Unlike Ericsson, Cowper Coles did not labor under the extreme military and political pressure of wartime, which required the construction of a large number of ships of common design in a short period of time. Instead, Coles had to contend with the lethargy of a peacetime military bureaucracy and the technological limitations imposed on ocean-going warships of that time. Those limitations included the need for masts and rigging, high freeboard for seakeeping, and weight and stability problems associated with all armored vessels. Coles was not a naval architect and, therefore, could not understand such technological limitations.

In 1855, during the Crimean War, Coles proposed building a raft carrying a 68-pounder gun protected by a hemispherical turret. A committee of officers reported favorably on the design, but



Coles' turret design. Courtesy of the author.

the war ended before any action could be taken.[19] He continued to improve on his idea. In March of 1859, he took out a patent for "An Apparatus for Defending Guns and Gunners in Ships of War, Gun Boats, and Land Batteries."[20] As in Ericsson's initial design, it consisted of a hemispherical shield, or cupola, covered with iron, housing a single gun with the whole resting on a turntable.[21] Coles continually petitioned the Admiralty to build ironclad "shield ships," suggesting



Coles' turret design. John Scott Russell, *The Modern System of Naval Architecture* (London: Day and Son, 1865) 3 Volumes. Courtesy of Dartmouth College Library.

that a steam-powered wooden three-decker be cut down, plated with iron, and armed with heavy ordnance protected by revolving shields.

The first operational British-built turreted warship was the *Rolf Krake*, built for the Danish Navy by Robert Napier and Sons of Glasgow and delivered to Copenhagen in 1863. She had two revolving turrets based on Coles' design. These turrets were 20' 6" outside diameter, rose 5' above the main deck, and housed two 68-pounder muzzle loaders in each turret. On 18 February 1864, *Rolf Krake* received her successful baptism of fire when she engaged the shore batteries of the invading Prussian Army at Egernsund, Denmark. However, while she was able to withstand being hit by shot from the batteries, the vessel's draft was too great for her to accomplish her assigned mission of destroying an enemy bridge.[22]

In 1861 and 1862, the Royal Navy had conducted experiments using turrets specially constructed on the test vessel *Trusty*.[23] As a result of these tests, the Admiralty decided to convert the *Royal Sovereign*, completed in 1864, and to build the *Prince Albert*, completed in 1866, as turreted coast defense ships. The *Royal Sovereign*, launched in 1857, was a wooden-hulled three-decker with 120 guns. The steam- and sail-powered warship was ordered to the Royal Navy's dockyard at Portsmouth for conversion in April of 1862. Her masts and decks were cut down, her hull clad in iron plate, and four revolving turrets of the Coles system were installed on the 240' long by 62' wide line-of-battle ship. The forward turret was the largest, with an internal diameter of 23' and rising 5' above the main deck. It was to house two 10.5" smooth bore muzzle loaders. The three aft turrets each carried one gun of the same caliber.

Coles retained the turntable principle of his patented design. A circular bed 26' in diameter, composed of teak timbers 30" square, and located on the berthing deck, supported the turret, turntable and its turning mechanisms. An iron cylinder, 20" in diameter and 7.5' long, ran up through the center of the bed, providing access to the turret from the magazines below. Two cast iron collars, 6' in diameter, secured the central

HMS *Wivern*. Courtesy of the US Naval Historical Center.

cylinder in place. Attached to these collars was a brass cylinder from which radiated 24 rods. These rods were connected to beveled iron wheels 18" in diameter (at widest) by 24" long. These wheels fit into a circular track which ran on top of, and around, the circumference of the circular bed. Resting on top of these wheels was the oak timber turntable; around the outer edge of the turntable was an open series of frames supporting the turret.

The turret proper consisted of an inner layer, or "skin," of 0.5" iron boilerplate, to the outside of which T-shaped beams were bolted at intervals of 20" around the circumference of the turret. The web of each beam was 10" in length, with the area between the web of the beams filled with teak. Over this was placed a crossed iron trellis work 0.75" thick and covered, in turn, by another 8" of teak. Finally, solid rolled iron plate, 5.5" thick, was bolted to the outside using bolts running all the way through to the inner iron "skin." An additional layer of iron plate 4.5" thick was placed on the facing of the turret around the gun ports, giving a total of 10" of armor at this point. The iron plate extended below the level of the main deck.[24]

The turret roof was composed of a layer of T-shaped beams covered with 1" iron plates. Holes cut through the roof provided ventilation and access to the top of the turret. One of the holes allowed the Gun Captain to sight from the rear of the turret, over the top, while directing the training of the turret on a target, but it also exposed him to enemy fire.

The British used solid iron plates 5.5" thick, beginning with the *Royal Sovereign*'s turrets, rather than building up and riveting together layers of 1" plate as the Americans had done. Experiments carried out by the Royal Navy had shown that a single 4.5" plate was more resistant to a 68-pounder shot than 6" of laminated plate. British rolling mills could roll thick iron plate in a reasonable amount of time. Ericsson could find only a single American firm, H. Abbott & Sons of Baltimore, equipped to roll thick plate. However, Abbott required at least two months to roll plate for Ericsson in 1861, too long a time to meet both Ericsson's and the Union Navy's urgent needs.

Unlike the Americans, the British used thick

HMS *Devastation*. Courtesy of the US Naval Historical Center.

layers of wood to back their turret armor. Wood backing, through which the bolts to attach the armor plate were run, was thought to give extra strength to the armor. However, the wood did not provide strength to the armor so much as to reduce the shock wave set up by an impact. The impact wave running "along the length of the bolt which, reflected at the end, would lead to failure."[25]

Coles' early turrets, turned by hand from both within the turret and outside by means of a rack and pinion system, took a crew of eighteen men one minute for one full revolution. The Gun Captain called out his commands for revolving the turret while sighting over the turret roof. The turret could also be turned by means of a block and tackle mechanism or by handspikes shipped and manned by capstan bars.[26]

Hinged bulwarks, which could be dropped outboard prior to battle, provided additional freeboard for the vessel.[27] Additionally, a leather flap extending around the outside bottom of the turret and over the gap between the turret and the deck reduced the water flow through the gap. The freeboard of these vessels was such that pumps could easily handle any water entering the hull between the turret and the main deck before it threatened the ship.

Coles also participated in designing the two Laird Rams, built at Birkenhead by Laird Brothers for the Southern Confederacy beginning in 1862. These vessels, later named *Wivern* and *Scorpion*, were never to see service with the Confederate Navy due to diplomatic pressure on the part of the United States. They were later designated, like the *Royal Sovereign* and *Prince Albert*, as coastal defense ships, but with only two turrets arranged along the centerline. These turrets were octagonal, rather than round, as were all turret ships ordered by foreign governments from Great Britain before 1865. This was for reasons of economy in the cost of construction, it being more expensive to bend the 4.5" plate for the curvature of the turret. Each turret housed a pair of 12-ton Armstrong 9" muzzle-loading rifles. The main deck of both vessels was 6' above the waterline.[28]

The rams had been designed with "a poop and topgallant forecastle fitted in such a manner that they can be removed at any time without breaking into the body of the vessel."[29] The poop and forecastle, coupled with hinged bulwarks, were to provide these vessels with the seakeeping qualities necessary to cross the Atlantic. Presumably, upon arrival in a friendly, Confederate port, the poop and forecastle would be removed, and the vessels fought as monitors.

During their acceptance trials by the Royal Navy in 1865, the two Laird-built vessels demonstrated that they could engage in combat on

the open ocean, and in fairly rough weather. The *Scorpion*'s commander wrote:

> *With the force of wind at 7, I took the opportunity of steaming at full speed [about 11 knots], round a target at the distance of 500 yards, and firing from both turrets. Although the ship was rolling seven degrees throughout practice, very little water was taken upon the deck and none whatever in the turrets. The practice from the guns was excellent considering the ship was never eased or the helm righted.*[30]

These two vessels, properly manned, could have crossed to the east coast of America and engaged the Federal fleet. Their speed was at least one to two knots faster than any of the US Navy's ironclads and, with their superior armor and heavy guns, would have caused great difficulty for Union blockaders. In the end, however, they would have succumbed to the greater numbers of Union vessels, both ironclad and wood.

Later Coles' turrets, such as those found aboard the *Monarch* (1869) and the ill-fated *Captain* (1870), were 26' in diameter with a height of 7' above the main deck. They were composed of solid iron plate, 8" thick on the *Monarch*, backed by 10" to 12" of teak. *Captain*'s consisted of 9" of armor backed by 11" of teak. Both vessels, like *Royal Sovereign* and *Prince Albert*, had 10" of armor facing around the gun ports. The turrets of the *Monarch* and *Captain*, like their predecessors, could be revolved manually. However, the principal means of turning the turrets was by steam engine.

All seagoing Royal Navy turret ships of the 1860s, including the coast-defense vessels built for foreign powers in private British yards, had masts and rigging, a protective forecastle and, with the exception of the *Monarch*, a poop. They also required a smokestack and armored pilot area located amidships. The forecastle, poop, smokestack, and pilot area reduced the arc of fire to between 120° and 132°, depending upon the particular ship. This was considerably less than the arcs of fire on the American monitors.

The *Captain* had a freeboard of 6.5' with its four 12" muzzle-loading rifles housed in two

HMS *Devastation*, aft turret. Courtesy of the US Naval Historical Center.

turrets barely 9' above the water. With 14' of freeboard, *Monarch*'s 12" muzzles stood 17' above the water. The problem of seawater entry through the openings in the main deck for the turrets was abated by the height of the deck above the water. The forecastle and poop reduced the frequency of the deck being awash, thereby aiding in the efficiency of turret operation.[31]

Coles' concept was much simpler, both in terms of construction and, with the final addition of steam power to turn the turret, operation. Unfortunately, the weight of the hull armor, turrets, and, especially, the masts made the ocean-going ironclads dangerously top heavy. This was demonstrated when the *Captain* capsized and sank while sailing to Gibraltar in 1870.[32] There would not be a true ocean-going turreted warship in any navy until the completion of the so-called "breastwork monitor," *Devastation*, completed in 1873.

This vessel was designed by Directors of Naval Construction Edward Reed and Nathaniel Barnaby, both naval architects. She combined all of the virtues of the Coles concept: all around fire, directly forward and aft, and being able to fire to port and starboard. The twin turrets, which housed two 12" 25-ton muzzle-loading rifles, were 30' 6" in diameter with 12" plates on 17" teak backing. The face of the turrets had 14" of armor with 15" backing, "the armor being in two layers separated by teak."[33] The turrets, along with the smoke pipes, ventilation, and hatches were set in a 12" thick breastwork. Her armored hull was, like Ericsson's monitors, of low freeboard: 4' 6". The *Devastation*, unencumbered by masts and rigging, was powered by steam alone and had the coal capacity for long voyages."[34] With her heavy protective armor, large caliber ordnance in turrets along the centerline, all around fire, and cruising capabilities, *Devastation* is considered to have been the first modern battleship.

Ericsson's turret design was successful in meeting the unique requirements of the American Civil War. His concept, however, was a technological "dead end" because, while the monitors could travel on the ocean, they could not engage in combat at sea. The ability to fight upon the open ocean is an essential requirement for any navy. The elimination of masts and rigging, improvement in the efficiency of steam propulsion, and better fuel storage capacity assured the predominance of Coles' design. The Coles turret system would become a standard feature on virtually all turreted warships until the 1890s.

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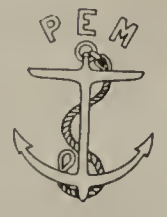
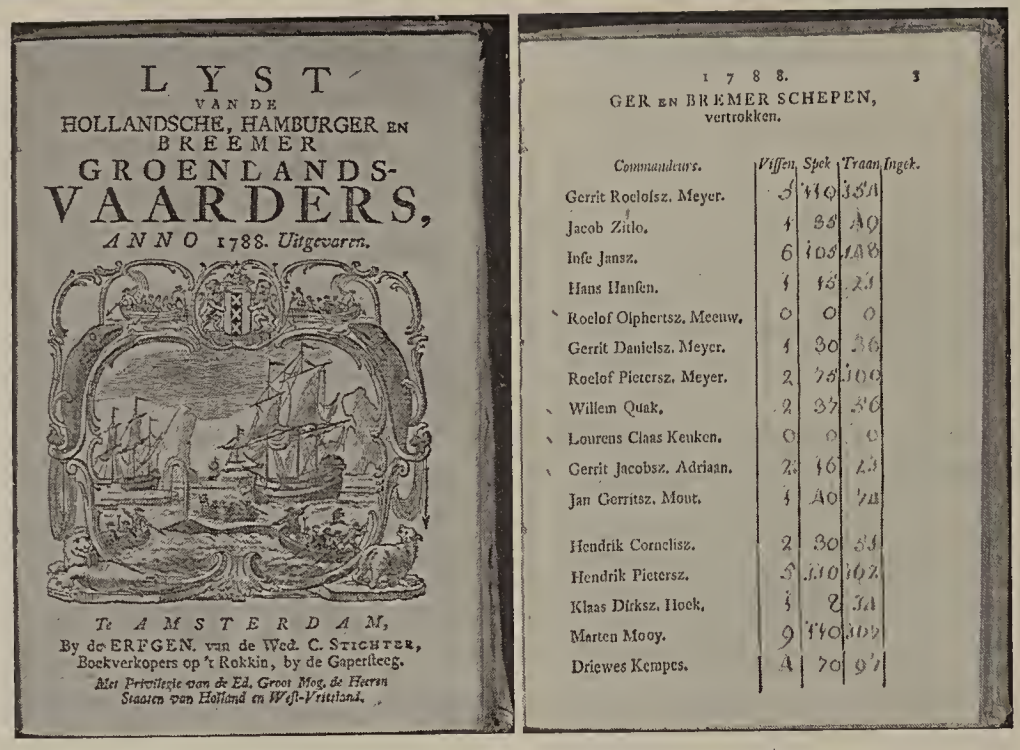




LYST
VAN DE
HOLLANDSCHE, HAMBURGER EN
BREEMER
GROENLANDS-
VAARDERS,
ANNO 1788. *Uitgevaren.*

Te AMSTERDAM,
By de ERFGEN. van de Wed. C. STICHTER,
Boekverkopers op 't Rokkin, by de Gapersteeg.
Met Privilegie van de Ed. Groot Mog. de Heeren Staaten van Holland en West-Vriesland.

1788. 3
GER EN BREMER SCHEPEN,
vertrokken.

Commandeurs.	*Vissen.*	*Spek*	*Traan*	*Ingek.*
Gerrit Roeloſsz. Meyer.	3	110	350	
Jacob Zitlo.	1	35	40	
Inſe Jansz.	6	105	188	
Hans Hanſen.	1	15	23	
Roelof Olphertsz. Meeuw.	0	0	0	
Gerrit Danielsz. Meyer.	1	30	36	
Roelof Pietersz. Meyer.	2	75	100	
Willem Quak.	2	37	56	
Lourens Claas Keuken.	0	0	0	
Gerrit Jacobsz. Adriaan.	2	46	43	
Jan Gerritsz. Mout.	1	40	78	
Hendrik Cornelisz.	2	30	53	
Hendrik Pietersz.	5	110	162	
Klaas Dirksz. Hoek.	1	8	34	
Marten Mooy.	9	170	300	
Driewes Kempes.	4	70	97	

Bound volume containing 14 individually printed lists of Dutch, Hamburger, or Bremener whalers, with hand-written entries detailing quantities of blubber and oil taken, Amerterdam, 1779-85.

The Seizure of the *Flying Fish*

FREDERICK C. LEINER

On 28 November 1799, the 102-ton, Bermuda-built brigantine *Flying Fish*[1] put to sea from the French-controlled port of Jeremie in what then was called Saint-Domingue (now Haiti). Engulfed in Toussaint L'Ouverture's slave revolution against French colonial rule, Saint-Domingue was a dangerous place, but the high seas were no safer. The United States Navy cruised the waters of the Caribbean looking to capture or sink French warships or armed French merchant vessels in the undeclared "Quasi-War" that had begun in 1798. In the breakdown of authority, insurrectionary forces against Toussaint and outright pirates shot out from coves and little harbors to prey on unarmed cargo ships.[2]

The *Flying Fish* flew Danish colors and carried a cargo of coffee. Her twenty-two-year-old master, Nicholas Hinson, hoped to make St. Thomas with his eight-man crew and 153,000 pounds of coffee in perhaps ten days.[3] At eight o'clock in the morning of 1 December 1799, the *Flying Fish* spotted a large warship under her lee, and an hour later discovered another to windward. Sandwiched between two major combatants, the unarmed *Flying Fish* could not fight and, according to Hinson, with the wind blowing hard, could not shake out her close-reefed topsails to try to flee. The *Flying Fish* maintained her course. The warships slowly closed the gap. The ship to windward was the 32-gun frigate *Boston*, Captain George Little, and the ship to leeward was the 24-gun frigate General Greene, Captain Christopher Raymond Perry, both flying the Stars and Stripes. Hinson, an experienced seaman despite his youth, certainly recognized the *Boston*; three months before, the *Flying Fish* lay near the American frigate for four or five days at Cape Français in Saint-Domingue. Denmark, of course, was a neutral in the French–American maritime war. Nevertheless, Hinson tossed the *Flying Fish*'s log book overboard. He later insisted that he did so "before it was possible to ascertain what the ships were then in chase."[4] The helmsman, an American named William Lacher James, contradicted him, later testifying that "when the *Boston* was coming up with us," Captain Hinson brought the *Flying Fish*'s log book and "a bundle of papers" on deck, tied them together, weighted them with a stone, and tossed the lot over the side.[5]

By four o'clock in the afternoon, the *Boston* came within hailing distance. Hinson heard Captain Little bellow to the *Flying Fish* to "heave to" or be sunk, "haul down [your] damned white washed colors" and "lower [your] boat down and come on board" the *Boston* for an interview.[6] Hinson crossed over to the towering *Boston* with the balance of his ship's papers. His conversation with Captain Little went unrecorded, but must have been brief and unsatisfactory. Little retained the *Flying Fish*'s papers, sent Hinson back to his ship, and ordered the *Boston*'s second lieutenant, Joseph Beale, to muster some sailors and seize the *Flying Fish*.[7]

By what authority did Little act? In the "Non-Intercourse Law" of 9 February 1799,[8] Congress prohibited any vessel owned or chartered by an American to enter any French or French-controlled port, and forbade any American citizen from trading goods in a foreign flag

The frigate *Boston*, originally printed in Recueil de Navires de Guerre et Marchands de Diverses Nations (Paris, 1812).

vessel going to a French port. The statute provided, in case of violation, that the ship, together with its cargo, were subject to forfeiture upon a condemnation suit filed under the United States district courts' admiralty jurisdiction.[9] Secretary of the Navy Benjamin Stoddert enclosed a copy of the statute to the commanders of his cruisers in the Caribbean, the focal point of naval operations in the undeclared war between the two republics. With the printed statute came a handwritten circular letter from the Navy Secretary, acting by authority of President John Adams, dated 12 March 1799, which stated:

> *A proper discharge of the important duties enjoined on you, arising out of this act, will require the exercise of a sound and impartial judgment. You are not only to do all that in you lies to prevent all intercourse, whether direct or circuitous, between the ports of the United States and those of France and her dependencies, in cases where the vessels or cargoes are apparently, as well as really, American, and protected by American papers only; but you are to be vigilant that vessels or cargoes really American, but covered by Danish or other foreign papers, and bound to or from French ports, do not escape you.*
>
> *Whenever, on just suspicion, you send a vessel into port to be dealt with according to the aforementioned law, besides sending with her all her papers, send all the evidence you can obtain to support your suspicions, and effect her condemnation...*[10]

Carrying out these directives fell to the American naval officers on the spot. Christopher Raymond Perry, the *General Greene*'s captain, was a choleric and peculiar man. The Navy dismissed him from the service after an October 1800 court of inquiry found that he had disobeyed orders by keeping his ship in port for a month, used his ship to bring pigs from Saint-Domingue home to his Rhode Island farm, and kept a slothful and oppressive ship in which one

midshipman had urinated on another who was asleep on deck.[11] Captain George Little of the *Boston*, a Revolutionary War veteran and post-war merchant captain, received his command on the recommendation of the merchants of Boston who, according to President Adams, thought Little would be the American Nelson.[12] More so than most of the US Navy captains in that surprisingly litigious era, George Little left his mark in the courtroom as well as on the high seas. He later fought a fellow captain in the federal courts over breaking a promise for splitting prize money, and still later was court martialled and cashiered for allowing his crew to pillage the property of a captured French ship.[13]

With the *Flying Fish* under their control, Captains Little and Perry did not know what to do. At first glance, the *Flying Fish*'s papers — a muster roll, a manifest, a bill of lading, a bill of sale of the brigantine from Cruyden & Co. to one Samuel Goodman, its present owner, and a "protest" against the brigantine's apparent former capture by a barge controlled by Rigaud, an insurrectionary against Toussaint — seemed unexceptional. On the other hand, Hinson, who claimed to be a Dane, spoke a suspiciously "American" English.[14] The mate, David Needham, hailed from Danvers, Massachusetts, and therefore was unquestionably American.[15] Francis Barreme, the supercargo (*i.e.*, the agent for the owner), was a Frenchman, with his French name and birth on Martinique, although he claimed to be a naturalized Swede.[16] Goodman, the owner, resided in St. Thomas and claimed to be a Dane by naturalization, although he was born in Berlin and carried a British passport.[17]

The *Flying Fish*'s crew was such a polyglot mix of Portuguese, Danes, Swedes, black Bermudians, and Americans that none of the Answers to Interrogatories respond to the inquiry regarding the nationality of the crew exactly alike. Both the vessel and her coffee cargo, in sacks marked "SG," "NH," and "FB" (the initials of the owner, master, and supercargo, respectively), plausibly were owned by neutrals, as they belonged to alleged Danes and a supposed Swede but not to Americans. Yet it was exactly vessels like the *Flying Fish*, "covered" by Danish papers but perhaps "really American," that Secretary Stoddert wished to interdict.

For ten days or so, the two American frigates and the captured *Flying Fish* sailed together as Little and Perry pondered what to do. Then came the bombshell. Captain Little learned that Hinson had kept, and then jettisoned, a log book, that the protest about the former capture among the papers was a fabrication, and that even after the *Flying Fish*'s capture, Hinson asked his crew to lie by supporting the protest's "facts." Little summoned Hinson. To his sharp questions, Hinson replied he had declared to Little at their initial 1 December interview:

> *I had not* then *a Log Book. And that I never affirm'd or pretended the Protest to be true.*[18]

Little's reaction to this dissembling, while not recorded, probably differed little from that of his first lieutenant, Robert Haswell. To Haswell, the *Flying Fish*'s perceived initial "press of sail" to try to outsail the American frigates, followed by the discovery of the jettisoned log book and false protest, suggested that the situation was not what it seemed. The American officers thought that either the vessel or some of her cargo probably had an American connection. Haswell made special mention of Hinson's dissembling. In the initial interview, Hinson specifically denied keeping a log, masking the lie with the statement that it was not customary to keep a log on short mercantile voyages in the Caribbean.[19] Such evasions and prevarications sounded a false note, and Little decided to let the court sort out the truth.

There was another inducement to send the *Flying Fish* into Boston. If they acted correctly, Little, Perry, and their officers and crews legally stood to gain a percentage of the cash proceeds from the sale of a ship and cargo condemned by a US admiralty court.[20] On 16 December 1799, Little ordered Lt. Beale to sail the *Flying Fish* to

Captain Christopher Raymond Perry, by an anonymous artist. Collection of Mr. Clyde B. Osborn. Used by permission of the Frick Art Reference Library.

Boston for condemnation.[21]

The *Flying Fish* arrived in Boston on 3 January 1800. Five days later, United States Attorney for the District of Massachusetts John Davis[22] filed a libel in the United States District Court in Boston entitled *Little v. The Brigantine Flying Fish*. In the libel, Captains Little and Perry, "for themselves, the officers and crews of their respective ships as for the United States," sought the formal legal seizure and condemnation of their prize. After narrating the bare facts regarding the seizure of the *Flying Fish*, the libel alleged that the Americans caught the brigantine "bound to or sailing to some port or place within the dependencies of the French Republic" with cargo owned in whole or in part by Americans. The putative prize was "owned, hired, or employed, wholly or in part, by some person or persons resident in the United States" to trade with the French colonies, contrary to the Non-Intercourse Law. The libel asked that the brigantine "with her furniture, tackle and apparel together with her Cargo" be declared the rightful prize of Little, Perry, and the officers and men of the Boston and *General Greene*, along with the United States.[23]

On 11 January 1800, United States District Judge John Lowell[24] ordered the marshal to provide notice — by publication in the leading Federalist newspaper, *The Columbian Centinel*, and posting on the courthouse door — of the libel trial scheduled for 31 January.[25] On the same day, responding to a motion by Little's prize agent, Judge Lowell ordered three local merchants to survey the state of the *Flying Fish*'s cargo. He gave the surveyors authority to off-load and store the coffee if they found it in a "perishing state."[26] In a sworn return to the Court, the surveyors counted 1,233 coffee bags of varying weights, 791 marked "SG," 278 marked "NH," 154 marked "FB," and ten marked "A" or "M" as "seamen's adventures." Of the 1,233 bags, the surveyors found 236 damaged, and unloaded and stored the whole. After determining the average bag weight and the values of the damaged and undamaged coffee at the then-current Boston price, the surveyors appraised the coffee to be worth $30,528.80, although they valued the leaking *Flying Fish* at only $4,500.[27]

Under the law of nations, the accepted international practice for prize cases called for the *proces verbal*, written interrogatories that the principals of the libeled ship answered under oath. The prosecuting authority in the prize court, the US Attorney, used the sworn answers as the primary evidence at trial to establish the libelants' case, although live examination of witnesses supplemented such written proof in

"doubtful" cases.[28] US Attorney Davis handcrafted a twenty-two question set of interrogatories, querying each respondent as to the nationality of the crew, the size, history, and ownership of the brigantine and her cargo, the ships' papers found and destroyed, and the like. Davis served the interrogatories on Hinson, Barreme, and on at least four of the *Flying Fish*'s crew, including her two Americans.

Because prize court decisions became "good against the world" if affirmed on appeal and therefore could not be contested at another time in another court,[29] anyone with a claim to the libeled property had to interpose the claim before the admiralty court. Hinson and Barreme filed separate Answers to the libel with their claims. Hinson asserted through his attorney, William Walter, Jr., that neither the *Flying Fish* nor her cargo was owned by any citizen of the United States, but was the rightful property of neutrals. Hinson specifically demanded his 278 sacks of coffee, as well as costs and damages "for her illegal detention."[30]

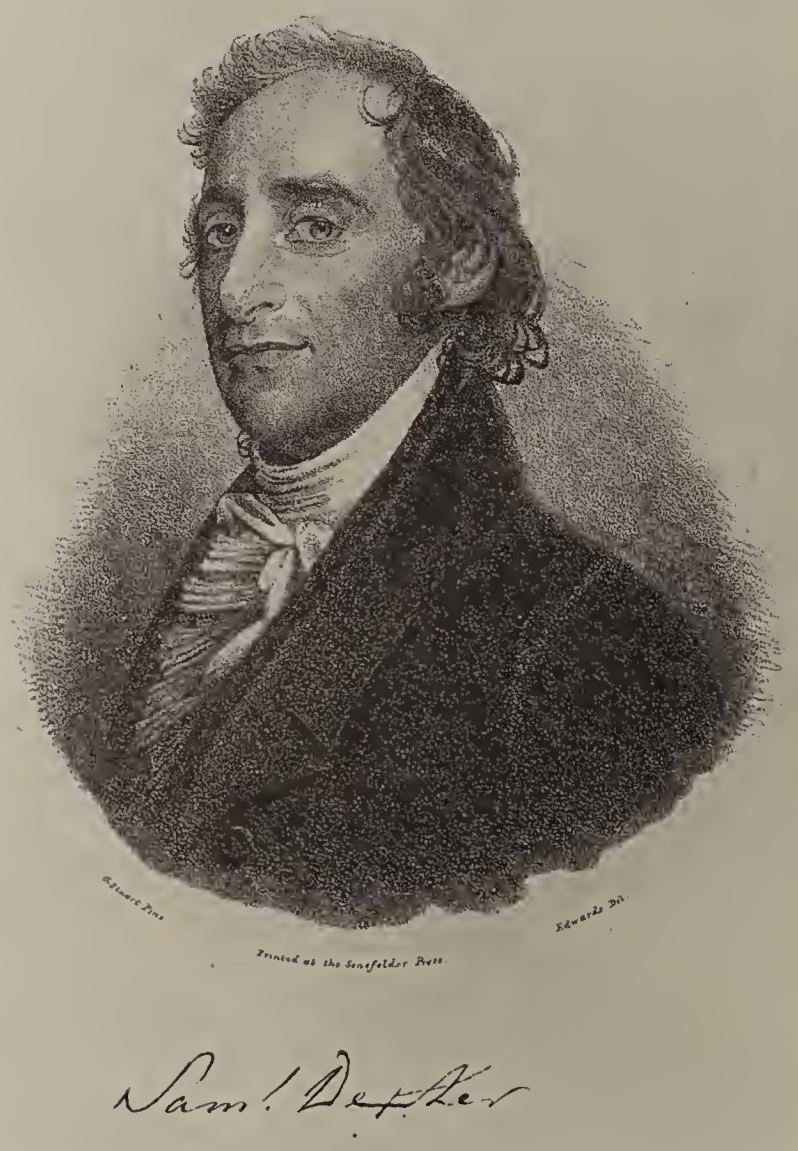
On behalf of Barreme personally and as supercargo, attorney George Blake[31] also filed an answer to the libel. Barreme reiterated Hinson's defense and stated that the *Flying Fish* had "not and never has been engaged in any traffic & commerce contrary to the true tenor" of the Non-Intercourse Law. The brigantine herself, Barreme asserted, belonged to Samuel Goodman only, and further insisted Goodman was a Dane residing at St. Thomas. He also noted that the *Flying Fish* sailed from Jeremie (a French dependency) bound to St. Thomas, which the American statute did not prohibit. Moreover, he specifically denied that Little and Perry had probable cause to suspect a violation. Consequently, Barreme demanded damages and costs for the injuries caused by the "unlawful seizure and detention."[32]

Unfortunately for the American officers, US Attorney Davis could not uncover proof for their suspicions. The answers to interrogatories indicated that both Goodman and Hinson were neutral Danes, the *Flying Fish* was Goodman's ship, the coffee cargo found aboard belonged to Goodman, Barreme, and Hinson, and the *Flying Fish* was not sailing to a French controlled port. Although later at the trial, Barreme admitted that Hinson jettisoned the brigantine's log after the *Flying Fish* identified her as American,[33] and First Lieutenant Haswell testified that Little ordered the *Flying Fish* to Boston for adjudication upon discovering the false protest and Hinson's prevarication on the logbook,[34] Little's suspicions and Hinson's suspect act did not establish the libelants' *prima facie* case.

Judge Lowell decreed that the brigantine and cargo be restored to Barreme, but he refused to give damages for the costs and losses because

Lieutenant Robert Haswell, attributed to James Sharples. Used by permission of the Massachusetts Historical Society.

Little had probable cause to think the *Flying Fish* was American, given Hinson's accent and appearance, the tossed logbook, and the false protest. Although he candidly conceded "much diffidence" in ruling that Barreme could not recover damages, Judge Lowell observed that the *Flying Fish* breached the "practice of nations... for many ages" by destroying the ship's documents and carrying false papers. By doing so, Hinson subjected his ship, people, and cargo "to every inconvenience resulting from capture, examination and detention; except the eventual condemnation of the property..." The merchants at St. Thomas, even the very crew of the *Flying Fish*, knew of the Franco– American maritime war, and neutrals "who would avoid the inconveniences of restraint [should] act with openness, and avoid fraud and its appearances."[35]



Samuel Dexter, Jr. Lithograph by Thomas Edwards from a painting by Gilbert Stuart. Used by permission of the National Portrait Gallery, Smithsonian Institution.

On appeal, the Circuit Court for the District of Massachusetts reversed. In a one-page opinion, the Circuit Court recognized Captain Little's right to stop and examine the brigantine, but found that he had no right to capture her and laid down a harsh rule:

> *That it was at his risque & peril if the property was neutral. And that a probable cause to suspect the Vessel & Cargo American will not, in such case, excuse a Capture & sending to port.*[36]

The Circuit Court appointed three disinterested "assessors" to determine the damages and costs. Goodman's agent tried to roll up the damages by putting in expansive claims for the four cents per pound difference in the price of coffee at St. Thomas (as opposed to the auction price at Boston), repair bills from the sailmaker, carpenters, and the ropewalk for the *Flying Fish*, the detained crew's wages and rations, and Hinson's passage to America, a total of $16,763.21.[37] The assessors awarded $8,504.06.[38] The marshal's fees and expenses amounted to an additional $131.30.[39] Together, Captains Little and Perry faced damages and costs of nearly $9,000, exclusive of interest — about four times a captain's yearly compensation.[40]

Hinson's lawyer, William Walter, Jr., came for the money. On 10 July 1801, Walter filed in the Circuit Court a writ of execution seeking to summon Little and Perry and to force them to show cause why, at the next convening of the Circuit Court set for 26 October 1801, Barreme "ought not to have Execution, or capias against them, the said Little & Perry, their goods & estate, to satisfy the Debt..."[41] Ten days later, the marshal served the writ on Captain Little, who lived in Marshfield, Massachusetts (within the jurisdiction). Perry, a Rhode Islander, was beyond the

jurisdiction.[42] Little hired one of the day's greatest Supreme Court advocates, Samuel Dexter, Jr.,[43] to represent him on appeal to the Supreme Court, where *Little v. Barreme* was argued in the December 1801 term. Only the captains' appeal to the Court and the Jefferson Administration's repeal in April 1802 of the Judiciary Act of 1801 staved off the judgment creditors.[44]

On 27 February 1804, Chief Justice John Marshall handed down the Supreme Court's unanimous opinion in *Little v. Barreme*.[45] The holding of this case is deceptively simple: the commander of a United States Navy warship is strictly liable in money damages for following the orders of his civilian superiors that misconstrue or go beyond the Congressional statutory grant when his execution of those orders injures any person or property.[46] Unlike the bright line rule announced by the Circuit Court, Chief Justice Marshall's opinion in *Little v. Barreme* contains no resoundingly written rule of law or even a single citation to a precedent.

Chief Justice Marshall observed that had Congress been silent, perhaps the President "without any special authority" might have ordered the Navy's captains to seize and send in American vessels engaged in illegal commerce for prize court proceedings. However, the Non-Intercourse Law specifically proscribed vessels from sailing to a French port, not from one, and the Court therefore read the statute "to exclude a seizure of any vessel not bound to a French port. Of consequence, however strong the circumstances might be, which induced Captain Little to suspect the *Flying Fish* to be an American vessel, they could not excuse the detention of her, since he would not have been authorized to detain her had she really been an American."[47] No matter that "[i]t was so obvious" that such a poorly worded statute "would be very often evaded," no matter that the President, through the Secretary of the Navy, construed the law differently, and in a way "much better calculated to give it effect." The instructions gave Little no protection.[48]

A Revolutionary War veteran himself,[49] Chief Justice Marshall publicly conceded that he found his decision difficult,[50] and it also caused unease for his brethren.[51] He first thought that, because a military system requires uniformed officers to obey the orders of their civilian superiors, Little should be excused from damages. However, he "receded from this first opinion. I acquiesce in that of my brethren," that instructions could not legalize an illegal seizure. Marshall's discomfort was cold comfort to Little, whom the Supreme Court held answerable in damages to Barreme.[52]

For Little, the Supreme Court's decision was simply unpalatable; he refused to pay. He wrote the US Marshal in Boston, Samuel Bradford, as to what would happen to him. Bradford replied that the Circuit Court would not officially note Little's refusal until the Court next convened, on 20 October 1804. As of that time, the damages and costs — with interest — totaled $10,245.96.[53] At the time the Court reconvened, it would issue a contempt order against him, and Bradford would have to "arrest your Person" to bring Little before the Court on 1 June 1805, its next meeting. "Of course," Bradford assured Little, "there can be no authority to embarrass you until after October." The specter of a former naval captain as a prisoner was clearly raised, but Bradford reported it was distasteful to Little's friends and Barreme's attorney, George Blake, whose "Disposition towards you is perfectly friendly." According to Bradford, they all urged Little to come to Boston to consult with his lawyers and petition Congress for relief.[54]

Samuel Dexter, Little's attorney, had been a United States Senator from Massachusetts and Secretary of the Treasury and Secretary of War in President Adams' cabinet. Probably with Dexter's intercession, a bill was introduced in Congress for Little's relief. Other American captains had experienced "embarrassment" interpreting the Non-Intercourse Law through the Navy Secretary's gloss. A bill for Captain Alexander Murray's relief from the mandate of *Murray v. The Schooner Charming Betsy* passed Congress on 31 January 1805.[55] According to Senator Samuel Mitchell, a Federalist from New York, Federalist Congressman

Samuel Dana of Connecticut had deliberately pushed Murray's relief before Little's because "he knew Capt. Murray had many strong friends among the Democrats [*i.e.*, Republicans], and, if successful, would form a precedent for yours." Mitchell assured Little that he would "have all the federalists for you, and if those of the Democrats who voted for Murray are consistent, yours stands a great chance of success."[56] Nevertheless, the bill for Little's relief foundered in that session of Congress. Introduced again in December 1806, it passed in the House and Senate and received President Jefferson's signature on 22 January 1807.[57]

For more than two years, the Danish judgment creditors apparently left Little alone. Whether this was from Blake's "perfectly friendly" disposition, assurances from George Little's powerful Federalist friends such as Dexter and Josiah Quincy that Congress ultimately would pay the judgment, or revulsion from throwing a naval veteran into debtor's prison cannot be found in the surviving scraps of correspondence. Certainly, as soon as the relief bill passed, Quincy urged Little to gather all his expense vouchers together, meet with Blake, and "lose no time if you wish my agency in settling the amount."[58] For his part, Blake asked Little to come up to Boston to coordinate the submission of expense vouchers, since he would be indemnified for court costs, travel expenses, and legal fees. Blake suggested he reduce everything to the proper form to send to Washington as "it behooves us to be alert in the final adjustment of this, to you, vexatious affair."[59] Little's nightmare was over, although it is just possible that George Blake's "perfectly friendly" attitude towards Federalists such as George Little helped cost Blake, a Republican, a seat on the United States Supreme Court.[60]

Twenty years after George Little's seizure of a neutral Danish ship subjected him to damages, another US naval officer, Richard Stockton found himself in a similar predicament. A Portuguese warship opened fire on Stockton's command, the sloop of war *Alligator*. After the *Alligator* subdued the Portuguese vessel, Stockton sent her into Boston for adjudication. The United States District Court granted damages to the Portuguese for wrongful detention, but the Circuit Court for Massachusetts, in an opinion by Justice Story, reversed in the Marianna Flora.[61] Justice Story wrote

> *Alligator had a perfect right to resist the attack and to subdue the vessel.... And if this be so, where is the case that decides that a justifiable capture becomes tortious by sending in the vessel for adjudication?*[62]

Little v. Barreme might seem the very case. When the Supreme Court heard the appeal, however, George Blake, as counsel for Lt. Stockton, was able to distinguish *Little v. Barreme*. As Barreme's counsel, he had denied Little had probable cause to stop the *Flying Fish*. As Stockton's counsel, he pointed out that in *Little v. Barreme*, the Supreme Court did not decide whether Little's probable cause to suspect the *Flying Fish* to be American exempted him from damages, because even "had she been so, the seizure would still not have been warranted by the law."[63] Justice Story, writing for a unanimous Supreme Court, affirmed his earlier opinion as Circuit Justice. Without distinguishing *Little v. Barreme* by name, he clearly accepted Blake's argument. While writing of Lt. Stockton's predicament, at sea and therefore with full responsibility and no clear set of principles to guide him, he might well have been writing of George Little's earlier predicament:

> *It is a different thing to sit in judgment upon this case, after full legal investigations, aided by the regular evidence of all parties, and to draw conclusions at sea, with very imperfect means of ascertaining facts and principles, which ought to direct the judgment. It would be a harsh judgment to declare that an officer charged with high and responsible duties on the part of his government, should exercise the discretion intrusted to him at the peril of damages, because a court of law might ultimately decide that he*

might well have exercised that discretion another way.[64]

One hundred years after Little seized the *Flying Fish* as a prize, the United States Navy fought its last maritime conflict in which its captains could take prizes. During the Spanish–American War of 1898, various American warships seized Spanish fishing smacks sailing from Cuba. From time immemorial, vessels engaged in coast fishing for the daily market were not liable to capture, and the Spanish owners sued the American officers as well as the United States for damages and costs. In *The United States v. The Spanish Smack Paquete Habana*,[65] Justice Oliver Wendell Holmes wrote for the Supreme Court that a decree could not be entered against the captors, but could be entered against the United States. The libel against the fishing smacks had been brought by the United States, not by the commanders of the US warships, and the United States "has so far adopted the acts of capture that it would be hard to say that...it has not made those acts its own." The United States had an interest in the proceeds and, by filing the libel on its own behalf, the United States implicitly submitted to the Court's jurisdiction and the entry of a decree against it. Holmes distinguished *Little v. Barreme* as "conversely" from *The Paquete Habana*, in that the United States was not a party in *Little v. Barreme* and the captor, Little, was.[66]

Holmes was wrong on the historical facts. The United States was a party to the *Little v. Barreme* libel,[67] which was prosecuted by its agent, the US Attorney, and the United States certainly had a pecuniary interest in the outcome.[68] Given the libel and the representation by the US Attorney, it would be hard to say that the United States had not made the capture of the *Flying Fish* "its own." Moreover, Congress passed an act for the relief of George Little precisely because he had acted in good faith as an officer of the United States. Read in this light, Holmes' opinion suggests not that the United States should not have been obligated to pay damages in *The Paquete Habana*, but that the United States should not have forced Captain Little to be the defendant in *Little v. Barreme*.

Since the demise of prize-taking at sea, courts have interpreted *Little v. Barreme* as an increasingly abstract proposition, rather than on its particular facts. The decision has been said to be early American disapproval of the "Nuremberg defense" of following orders,[69] but the chief war crimes prosecutor at Nuremberg does not recall if *Little v. Barreme* formed an intellectual building block for the prosecutors.[70] Federal courts have cited *Little v. Barreme* more than fifty times since 1804. For lawyers in the late twentieth century, it is a reference in the qualified Federal executive immunity doctrine,[71] a foundation for interdicting drug smugglers on foreign territory,[72] and a precedent in the discussion of proper scope of the President's authority where Congress already has exercised its legislative will.[73]

While the case lives, the participants faded into obscurity. Little and Perry each faced courts inquiring into their conduct, and the Navy retained neither man after the Quasi-War. Hinson, Barreme, and the *Flying Fish* presumably returned to shipping coffee and goods around the Caribbean. The wrongful seizure of the *Flying Fish* is a minor incident in itself, scarcely mentioned in naval histories.[74] As a contemporary newspaper suggested, the *Flying Fish* was one of a "number of these nominal prizes" then released and given compensation, which those who gloried in the Navy never took into account.[75]

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Credits

I wish to thank Geoffrey Footner, Donald A. Petrie, and the late W. M. P. Dunne for their suggestions and comments on the manuscript.

Notes

1. The facts about the *Flying Fish*, her crew and her voyage, are taken from Nicholas Hinson's sworn "Public Instrument of Protest," 20 January 1800, and the Answers to Interrogatories by Hinson [undated], Francis Barreme, William Lacher James, David Needham, Manuel Smith, and A. Baptiste, all dated 3 January 1800, all of which are contained in National Archives — New England Region, Waltham, MA, Record Group 21, Records of the United States District Courts, United States District Court for the District of Massachusetts, *Little v. The Brigantine Flying Fish*, January term 1800 [hereafter, "*Little v. The Brigantine Flying Fish* Casefile"].
2. For an overview of the tangled Saint-Domingue revolution and wars, see Stanley Elkins and Eric McKitrick, *The Age of Federalism* (New York: Oxford University Press, 1993), 649–52; Ira Dye, *The Fatal Cruise of the Argus* (Annapolis: US Naval Institute Press, 1994), 155–58.
3. *Little v. The Brigantine Flying Fish* Casefile, Hinson's Answers to Interrogatories.
4. *Little v. The Brigantine Flying Fish* Casefile, Hinson's Answers to Interrogatories.
5. *Little v. The Brigantine Flying Fish* Casefile, William Lacher James' Answers to Interrogatories.
6. *Little v. The Brigantine Flying Fish* Casefile, Hinson's Public Instrument of Protest. The author has inserted the quotations in what appears to be Hinson's recounting of Little's actual words.
7. *Id.* , Beale is identified as the prizemaster in a paper he wrote in the casefile supporting a motion to unload the *Flying Fish*'s perishable cargo. See text at note 26, *infra*.
8. 1 Stat. at 613–16.
9. Act of February 9, 1799, sec. 1, 1 Stat. at 613–14.
10. Massachusetts Historical Society, Harrison G. Otis Papers, Circular of Navy Secretary Stoddert, March 12, 1799, reprinted in *Little v. Barreme*, 6 at US 170, 171–72 (1804).
11. National Archives, Washington, DC, Record Group 125, "Records of General Courts Martial and Courts of Inquiry of the Navy Department, 1799–1867," Court of Inquiry on Captain C. R. Perry, Oct. 13–20, 1800 (National Archives Microfilm Publication M273, roll 3).
12. Charles Francis Adams, ed. , *The Works of John Adams*,vol. 8 (Boston: Little, Brown, 1853), 664–65, J. Adams to B. Stoddert, July 8, 1799.
13. See F. C. Leiner, "Anatomy of a Prize Case: Dollars, Side-Deals, and Les Deux Anges," *American Journal of Legal History*, vol. 39, no. 2, April 1995, 214–32 (analyzing Talbot v. Little); F. C. Leiner, "The Sacking of Captain George Little," (accepted for publication by Naval History on Little's court of inquiry and court martial).
14. Hinson conceded that he had been master of ships that had called at New York and that as a boy, he had sailed in an American vessel. *Little v. The Brigantine Flying Fish* Casefile, Hinson's Answers to Interrogatories. During the litigation, George Little's prize agent, T. H. Perkins, wrote of Hinson that "no one who has seen and conversed with him, will doubt for a moment his being an American by birth & education tho' he may have thrown off his allegiance to his country.... " *Id.* , T. H. Perkins' *Dispute of Damages Claimed*, March 3, 1800. In the decree, Judge Lowell found that Hinson "sailed out of our ports; that he speaks our language perfectly, in the accent of an American, and has the appearance of being one. " *Id.* , Decree of Lowell, J. [undated].
15. *Little v. The Brigantine Flying Fish* Casefile, Needham's Answers to Interrogatories.
16. *Little v. The Brigantine Flying Fish* Casefile, Needham's Answers to Interrogatories.
17. A certified copy of Goodman's 1798 British passport, as well as a copy of an affidavit on his behalf by St. Thomas' merchants, are in the *Little v. The Brigantine Flying Fish* Casefile. At trial, when asked about Goodman's nationality, one witness testified merely "he is a Jew. " *Little v. The Brigantine Flying Fish* Casefile, Stephen Bruce's Testimony.
18. *Little v. The Brigantine Flying Fish* Casefile, Hinson's Answers to Interrogatories (emphasis in original).
19. *Little v. The Brigantine Flying Fish* Casefile, Haswell's Testimony.
20. The Act of 9 February 1799 authorized capture of

certain classes of merchant vessels and their judicial condemnation. Act of 9 February 1799, §1, 1 Stat. at 613–14. Congress provided that the United States and the captors of any vessel adjudicated a prize of "inferior force" to the captor split equally the cash proceeds from an auction sale. The half belonging to the captors was divided into twentieths. The captain received three-twentieths (*I. e.* , 7½% of the overall value), and the ship's lieutenants, warrant officers, seamen, marines, and boys each received statutorily designated shares of the rest. "An Act for the Government of the Navy of the United States," Act of 2 March 1799, chapter 24, §§5–7, 1 Stat. at 715–716.

21. *Little v. The Brigantine Flying Fish* Casefile, Hinson's Public Instrument of Protest.
22. Davis (1761–1847) had been the youngest member of the Massachusetts convention called to ratify the federal Constitution. He served in the Massachusetts legislature before President Washington named him Comptroller of the Treasury in 1795. Appointed US Attorney for Massachusetts in 1796, President Adams elevated Davis to the US District Court in 1801, where he served for forty years. *Dictionary of American Biography*, 5:132.
23. *Little v. The Brigantine Flying Fish* Casefile, Libel, January 8, 1800.
24. Lowell (1743–1802) was US District Court judge from 1789 to 1801. Previously, Lowell served in the Continental Congress and (1782–87) as one of the judges of the first federal court, the Court of Appeals in Cases of Capture. Henry J. Bourguignon, *The First Federal Court: The Federal Appellate Prize Court of the American Revolution 1775–1787* (Philadelphia: American Philosophical Society, 1977), 121.
25. *Little v. The Brigantine Flying Fish* Casefile, Order, 11 January 1800.
26. *Little v. The Brigantine Flying Fish* Casefile, Order for Survey, 11 January 1800.
27. *Little v. The Brigantine Flying Fish* Casefile, Survey, 31 January 1800.
28. On the *proces verbal*, see Donald A. Petrie, "Forbidden Prizes," *American Neptune*, vol. 54, no. 3, (Summer 1994), 173, Appendix A, Lord Mansfield's Memorandum of 1753.
29. *Miller v. Miller*, 2 US 1, 4 (Fed. Ct. App. 1781) ("The legality of a capture is open for question, till a competent jurisdiction has decided the question, and a decree passes for condemnation as prize; then and not before, all further questions and examinations are precluded.... "). A modern authority observes that "[u]ntil a captured vessel and its cargo are condemned by a prize court, the privateer's [or warship's] claim of ownership is open to challenge, and the sale of the capture is problematical. But a lawful condemnation clears up these ownership problems and makes the captured goods easily saleable. " William R. Casto, *The Supreme Court in the Early Republic: The Chief Justiceships of John Jay and Oliver Ellsworth* (Columbia, SC: University of South Carolina Press, 1995), 77.
30. *Little v. The Brigantine Flying Fish* Casefile, Hinson's Answer to Libel.
31. Blake (1769–1841) succeeded Davis as US Attorney in 1801, serving until 1829. Blake not only represented Barreme against Little, but in 1801 acted as Judge Advocate at the court of inquiry and then at the court martial which ended Little's career.
32. *Little v. The Brigantine Flying Fish* Casefile, Barreme's Answer to Libel.
33. Barreme answered "American" when asked at trial what the ship chasing *Flying Fish* was supposed to be. To another question, Barreme testified that "when the Frigate came near enough to be distinctly seen we took her for the Boston Frigate. " *Little v. The Brigantine Flying Fish* Casefile, Barreme's Testimony.
34. *Little v. The Brigantine Flying Fish* Casefile, Haswell's Testimony.
35. *Little v. The Brigantine Flying Fish* Casefile, Decree of Lowell, J. [undated], reprinted in *Little v. Barreme*, 6 US at 172–75. According to the record that went before the Circuit Court, the District Court issued the decree on 17 March 1800, "after several adjournments & a full hearing of the Parties by their Counsel. "
36. Opinion of the Circuit Court, 20 October 1800, in National Archives — New England Region, Waltham, Mass. , Records of the United States Circuit Court for the District of Massachusetts, Record Group 21, *Barreme v. Little*, April 1801 [*sic* October 1800] term [hereafter, "*Barreme v. Little* Appeal File"], reprinted in *Little v. Barreme*, 6 US at 175–76. I have used the spelling and punctuation found in the original.
37. *Barreme v. Little* Appeal File, Johan C. Hauff's "Estimate of Damages on The Brigantine *Flying Fish* and Cargo...," 20 October 1800.
38. *Barreme v. Little* Appeal File, Survey of Damages, 16 December 1800. The assessors allowed a two cents per pound difference in the price of coffee, an amount for depreciation of the vessel (euphemistically termed a "charter" fee), an amount to insure the *Flying Fish*'s voyage back to St. Thomas from Boston, and monies for the crew's provisions and expenses, but only one-tenth the wages Hauff had claimed for them. The Circuit Court accepted and enrolled the assessors' report on 8 April 1801.
39. *Little v. The Brigantine Flying Fish* Casefile, Marshal's Fees and Expenses. The fact that the US Attorney charged seventeen dollars for prosecuting the case may be refreshing to modern readers jaded by the size of attorneys' fees.
40. Christopher McKee, *A Gentlemanly and Honorable Profession: The Creation of the US Naval Officer Corps, 1794–1815* (Annapolis: Naval Institute Press, 1991), 336.
41. *Barreme v. Little* Appeal File, Writ of Execution (Show Cause), 10 July 1801.
42. *Barreme v. Little* Appeal File, Marshal's Return, 20 July 1801.
43. Dexter (1761–1816) read law with Levi Lincoln (later Jefferson's Attorney General) in Worcester. Elected to

Congress in 1792, selected for the Senate in 1799, Dexter served President Adams as Secretary of War and then Secretary of the Treasury in the waning months of the Federalist Administration. Upon the Republican sweep into office in March 1801, he resumed a leading position in the Boston bar. *Dictionary of American Biography*, 5:280–81.

44. The repeal of the Judiciary Act of 1801 required the Supreme Court justices to "ride the circuits," and the Court did not convene again until February 1803. R. Kent Newmyer, *The Supreme Court Under Marshall and Taney* (Arlington Heights, IL: Harlan Davidson, 1968), 28.
45. 6 US at 170 (1804).
46. 6 US at 177–78.
47. Five days before handing down *Little v. Barreme*, the Supreme Court decided *Murray v. The Schooner Charming Betsy*, 6 US 64 (1804). In both cases, Luther Martin and Jeremiah Mason represented the Danish claimants (along with Francis Scott Key in *Murray*) against American naval officers. In both cases, the Supreme Court appears to have accepted the lawyers' rationale: "[i]f an American vessel had been illegally captured by Captain Murray, he would have been liable for damages; a fortiori in the case of a foreign vessel, where, from motives of public policy, our conduct ought not only to be just but liberal. In cases of personal arrest, if no crime has in fact been committed, probable cause is not a justification, unless it be made so by municipal law. " *Id.* , 6 US at 73.
48. *Little v. Barreme*, 6 US at 177–78. In *Murray v. The Schooner Charming Betsy*, when Murray's lawyers offered the same instructions from Secretary Stoddert that Little relied upon, Justice Samuel Chase said "he was always against reading the instructions of the executive; because, if they go no further than the law, they are unnecessary; if they exceed it, they are not warranted. " *Id.* , 6 US at 78 n. 1. In that case, Captain Alexander Murray was found liable for damages, the Supreme Court questioning the probable cause.
49. As a young officer, Marshall fought at Brandywine and Monmouth Courthouse and wintered with the army at Valley Forge. See Leonard Baker, *John Marshall: A Life in Law* (New York: Macmillian Publishing, 1974), 27–55.
50. Marshall commented that "implicit obedience which military men usually pay to the orders of their superiors, which indeed is indispensably necessary to every military system, appeared to me strongly to imply the principle that those orders, if not to perform a prohibited act, ought to justify the person whose general duty it is to obey them..." *Little v. Barreme*, 6 US at 179.
51. In *United States v. Bright*, 24 F. Cas. at 1232 (No. 14, 647) (C. C. Pa. 1809), a Pennsylvania militia officer, acting under the color of superior orders, drew up his men with muskets and bayonets to prevent a Federal marshal from serving a writ. The Circuit Court held that the state was not entitled to obstruct execution of a Federal court decree and, citing *Little v. Barreme*, that the militia officer obeying orders is not excused from punishment. Justice Bushrod Washington, a member of the Supreme Court when *Little v. Barreme* was handed down, commented in *Bright* that in *Little v. Barreme*, the Court "felt every motive which could affect them as men to excuse an unlawful act performed by a meritorious officer. He was at sea, without the possibility of consulting with counsel or others as to the legality of the act he was about to execute, and which appeared to be authorized by the chief executive.... Notwithstanding all these powerful pleas in his favour, pleas which were addressed strongly to the feelings of those who were to decide on his case, the supreme court conceived that the laws of the land did not warrant the instructions given, and consequently that the officer was not justified in what he did...I acknowledge it is a hard case.... " *Id.* at 1258.
52. *Little v. Barreme*, 6 US at 179.
53. "Report of the Committee of Claims, to Whom was Referred...the Petition of George Little, of the State of Massachusetts," (Washington, DC: A. & G. Ways, printers, 1806), 22 December 1806, 6.
54. Franklin D. Roosevelt Library, Hyde Park, N. Y. , Naval Historical Manuscript Collection [hereafter, "FDR Library"], S. Bradford to G. Little, 3 August 1804.
55. "An Act for the relief of Alexander Murray," Eighth Congress, Second Session, Statute II, Chapter 12, approved January 31, 1805 is reprinted in *Private Statutes at Large of the United States of America*, volume 6 of *United States Statutes at Large* (Boston: Charles C. Little and James C. Brown, 1846), 56.
56. FDR Library, S. Mitchell to G. Little, 19 January 1805.
57. FDR Library, J. Quincy to G. Little, 13 January 1807 (reporting bill's passage of second reading in House); 14 January 1807 (reporting Senate's passage); 15 January 1807 (reporting House's passage of engrossment); 22 January 1807 (reporting President's signing into law). The "Act for the relief of George Little," Ninth Congress, Second Session, Statute II, Chapter 4, approved 17 January 1807, is reprinted in *Private Statutes at Large of the United States of America*, volume 6 of *United States Statutes at Large* (Boston: Charles C. Little and James Brown, 1846), 63.
58. FDR Library, J. Quincy to G. Little, 30 January 1807.
59. FDR Library, G. Blake to G. Little, 9 February 1807 (emphasis added).
60. When Justice Cushing died in 1810, President Madison had the opportunity to appoint a new justice. Former President Jefferson wrote Madison of the possible successors that "Blake calls himself a republican but never was one at heart. His treachery to us under the embargo should put him by forever. " Charles Warren, *A History of the American Bar* (New York: Howard Fertig, 1966) (orig. pub. 1911), 273. Madison selected Joseph Story, then 32 years old.
61. 16 F. Cas. at 736 (Cir. Ct. Mass. 1822), aff'd, 24 US at 1 (1826).

62. 16 F. Cas. at 739.
63. 24 US at 20.
64. 24 US at 50.
65. 189 US at 593 (1903).
66. 189 US at 594.
67. The action was brought by Captains Little and Perry "for themselves, the officers and crews of their respective ships as for the United States."
68. By statute, the United States stood to gain one-half of the value of ships and cargoes judicially condemned. Act of 9 February 1799, 1 Stat. at 614.
69. *Guido v. City of Schenectady*, 404 F. 2d 728, 743 n. 11 (1968) (Waterman, J.) (dissenting opinion citing *Little v. Barreme* for officer liability despite superior orders in the tort law context).
70. Telephone conversation between the author and Professor Telford Taylor, 3 February 1995.
71. Butz v. Economou, 438 US at 478, 490–91 (1978) (in a historical analysis of the liability of government officers for acting in their official capacities, Justice White discussed *Little v. Barreme* as a case where a commander was held strictly liable for "trespassing acts" outside those sanctioned by statute).
72. *United States v. Verdugo-Urquidez*, 494 US at 259, 267–68 (1990) (relying on *Little v. Barreme* and another Quasi-War capture case, the Supreme Court, in an opinion by Chief Justice Rehnquist, concluded that the early Congresses did not believe the Fourth Amendment applied to foreign nationals and therefore allowed a Drug Enforcement Agency warrantless search of a Mexican citizen's home in Mexico).
73. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 US at 579, 660–62 (1952) (Justice Clark, concurring with the majority's opinion that President Truman did not have the power to seize the nation's steel plants, quoted *Little v. Barreme* on the Congress' specific reference to ships bound to a French port as precluding the more general executive construction and concluded "I cannot sustain the seizure in question because here, as in *Little v. Barreme*...Congress had prescribed methods to be followed by the President in meeting the emergency at hand").
74. An exception is Gardner W. Allen, *Our Naval War with France* (Boston: Houghton Mifflin, 1909), 116–17, which neatly summarizes Captain Little's predicament and the Supreme Court decision.
75. *Boston Independent Chronicle*, 19–22 January 1801, 3.

The United States and Mauritius 1794–1994: A Bicentennial Retrospective

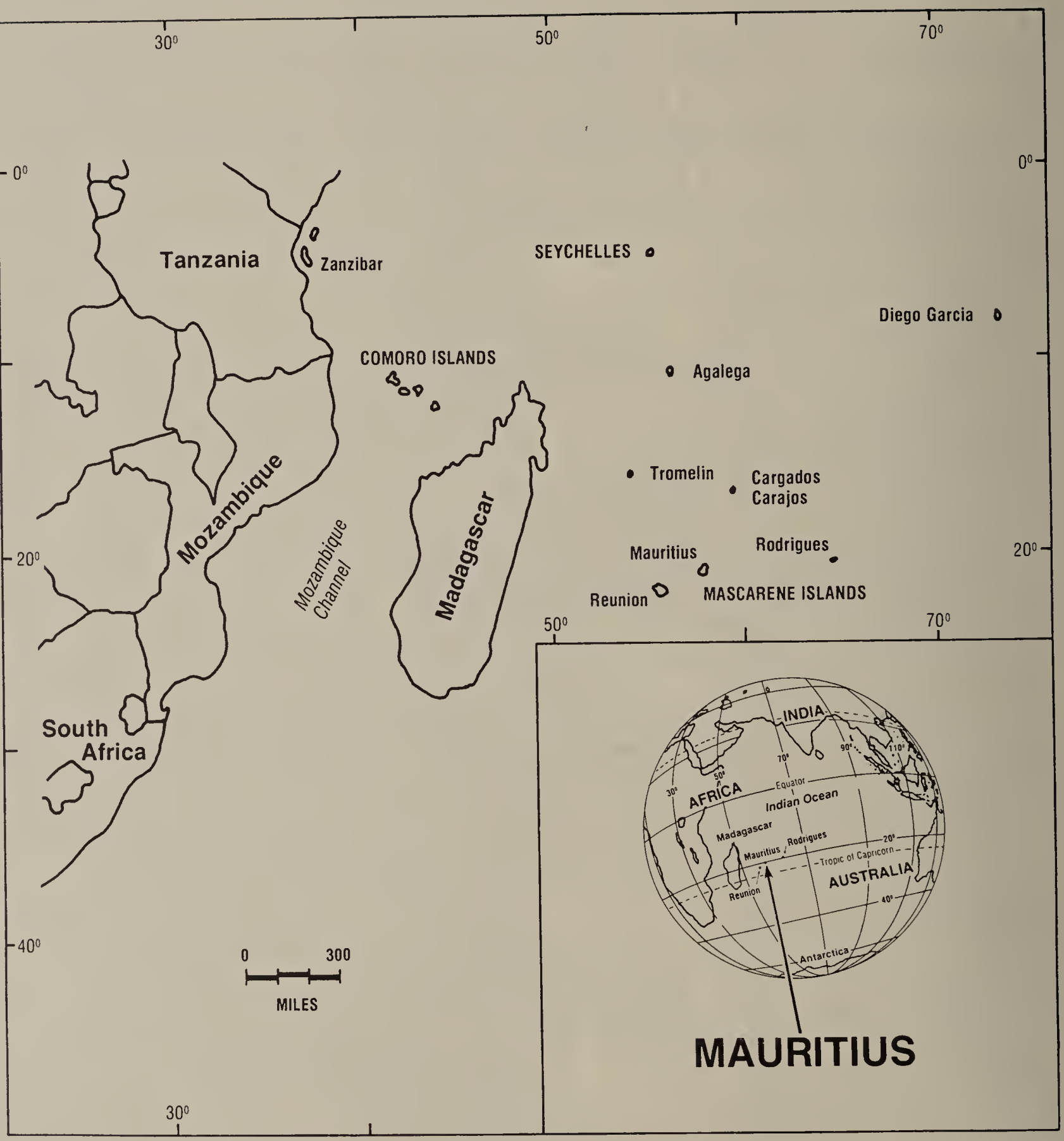
LARRY W. BOWMAN

On 29 May 1794, William Macarty, an American who had been a private commercial agent in Mauritius since November 1790, was appointed United States Consul to Mauritius, an island in the Indian Ocean, by President Thomas Jefferson.[1] The island's Colonial Assembly formally received him on 12 April 1795 with considerable acclaim for his role as a representative of a fellow republic. From then onward, despite occasional lapses, the United States maintained either a consul or a commercial agent in Mauritius until 1911, when the consulate was closed. There was then a lengthy hiatus in direct diplomatic representation until 1967 when the United States reopened its consulate. It became an embassy with Mauritian independence in 1968.

For two hundred years, the United States and Mauritius have maintained, with a few exceptions, amicable diplomatic relations. It was concern about US trade with Mauritius that prompted the initial appointment of Mr. Macarty. In 1996, trade issues still dominate the relationship. Other issues have come and gone, but commercial ties have always remained at the core of United States–Mauritian relations.

Through most of the nineteenth century, American representatives in Mauritius worked in considerable isolation. Few Americans lived on the island and, until the advent of the telegraph, it generally took six months or more for the consul to send a letter and get a response from Washington. Consuls often found their pay inadequate. Plaintive requests for more money were a recurring theme.[2] Diligent sorts, the consuls patiently recorded the coming and going of American ships, complete with the value of cargoes bought or sold, and the expenses of and the fees collected by their office. This and other information was handwritten and posted to Washington on a regular basis. That this was laborious and tedious work is reflected in their recurrent — and generally ignored — requests for money to hire a clerk.

The demands on the consul were considerable between the 1780s and 1810, when Mauritius was in the hands of the French, and the British and the French were at war. The US was a neutral carrier during the French–British wars. Great numbers of US merchant ships called at Mauritius on their way to or from the East to trade goods or to pick up cargoes captured by Mauritian privateers. After Britain seized Mauritius in 1810, that great era of US– Mauritian trade ended — a casualty of British mercantilism. Throughout much of the nineteenth century, the consul primarily had to deal with problems of American cargo and whaling ships that found their way to Mauritius. Here the consul often found himself interposed between mutinous seamen, authoritarian captains, and Mauritian authorities. Through a few short accounts, let me evoke this distant world of financial hardship, desperate seamen, and the



The Southwestern Indian Ocean, drawn by Ray Blanchette of University Publications, University of Connecticut. Permission courtesy of Westview Press.

inspired tenure of Nicolas Pike.

On 30 September 1856, George F. Fairfield, a bright and able consul, wrote to the US Secretary of State that after meeting local expenses, he was left "to live with a family upon three hundred dollars a year in the most expensive place in the world." Three years later, his situation seemed little improved. Fairfield reported:

> *I am really a sufferer, striving hard to keep out of debt and to support a family respectably.... I cannot entertain my countrymen or others; I cannot accept the entertainments and hospitalities of others around me. I cannot educate my children.... A public officer loses social caste, situated as I am. I am obliged to decline invitations to dine with the residents of the Island because I cannot endure to receive and not reciprocate.... I have, in three years, spent four thousand dollars more than I have received as salary.*[3]

The result for Mr. Fairfield was the depletion of his own small savings. He was forced to borrow money to get his family home.

Consuls routinely wrote Washington to ask for paper, quills, a new flag, and other supplies. W. R. G. Mellen, the consul who followed Fairfield to Mauritius, found an office without a desk, table, or chairs. Things seemed little better on 19 March 1906, when another American consul, Theodosius Botkin, wrote back to Washington that the consulate "in its present condition, is far below the average country lawyer's office. The desk at which I work, and the bookcase, are the only pieces of furniture fit for view, and they are not what they should be. The rest is...unfit to be seen in a Consulate." Like many before him, he pleaded for more money for supplies and help. "I have done very much 'roughing it' in my time, and, if necessary, can put up with as little as any other American,... [but] I am sure that any American, however niggardly, who should look into this office and see things for himself, would heartily endorse my appeal for a betterment of these conditions."[4]

Irrespective of the financial condition in which they found themselves, consuls regularly had to handle difficult personnel problems and exhibit considerable diplomatic skill. In his remarkable study of the life led by Americans aboard whaling ships, Briton Busch calls the mid-nineteenth century the "age of petitions and memorials."[5] Consuls regularly had to deal with such issues as determining the seaworthiness of US vessels, assessing the cruel treatment, poor diet, and ill health of seamen, determining responsibility for desertions and mutinies arising from horrific shipboard conditions, and all the resulting problems (health care, daily maintenance, local imprisonment, arranging passage home, even burial fees) associated with destitute seamen in distant ports. Given the slow speed of communication, the consul often had to make decisions on his own and hope Washington would support his decisions.

In 1832, the ship *Hercules* out of Boston put into Port Louis because of a mutiny. When Captain Abraham Rich sailed from Mauritius, he left the mutineers behind and in prison and gave the commercial agent, Paul Froberville, £500 to ensure they would be prosecuted back in the United States. Froberville, caught between the captain's demands, the prisoners' needs, and the local authorities, wrote to Washington requesting money to pay the mutineers' jail expenses. He commented, "the local government suffers the detention of the men in the Police Prison with some murmuring, [for] their Prison [is] more calculated for the custody of the Inhabitants of warm climates than for that of Europeans."[6]

In August 1853, six months after leaving the United States on what had been advertised as a sixty-day passage to Australia, the ship *Peytona* from New York barely made it to Port Louis after encountering a ferocious storm out of Cape Town. It was hard to know what was in worse shape, the ship or the passengers, who were described as "half-starved, sea-worn wretches."[7] The captain declared bankruptcy and was imprisoned, the ship was seized and sold, and the

The Trois Mamelles, volcanic remnants — an example of what Twain called the "quaint and picturesque group of toy peaks." Photo by Larry W. Bowman. Permission courtesy of Westview Press.

consul, George M. Farnum, had to pay $6,774.31 to get the destitute passengers home. Months of debate followed among the consul, the Colonial Secretary in Mauritius, and the captain over who should bear the financial responsibility for both American and British passengers aboard this ill-fated ship.

Helping desperate seamen was not always popular. When Thomas Shankland, the consul in 1862, intervened to help a group of seamen who complained of brutal punishment aboard the bark *Thomas Pope* out of New Bedford, the Port Louis, Mauritius, agents for the vessel wrote back to the United States that the consul "can only be shielded from the charge of being an habitual drunkard by charitably calling him insane."[8]

Nicolas Pike, consul from 1867–1872, deserved special recognition.[9] In 1871, he confronted the problem faced by twenty-one seamen, whose whaling bark *Hecla* out of New Bedford had been wrecked in the Seychelles. The crew lost all their personal possessions, nineteen months of wages, and were seriously ill with dysentery and ophthalmia. Because no American ships were expected any time soon, Pike paid $1,000 to get them all to Liverpool, expressing his belief that "I have done my best to save the Government additional expense in this area."[10] Less than a year later, Pike wrote the State Department, "it would horrify you could I relate all the sickening stories of oppression and barbarity brought daily to my attention." He was brought to this despair by the case of a captain who had given a seaman 123 lashes in one hour — a punishment Pike termed "a standing disgrace to our country."[11]

Besides carrying out routine tasks and serving during both the terrifying malaria epidemic of 1867 and a destructive cyclone in 1868, he wrote one of the finest books ever written on Mauritius. He also found time to collect, draw, and paint nearly 500 species of fish.

Pike was born in Newburyport, Massachusetts, in 1818. Although only formally educated through high school, he had broad intellectual interests, particularly in the area of natural history. By the late 1840s, he was president of the Brooklyn Natural History Society. In 1852, through the help of Daniel Webster, a family

friend, he was appointed consul to Oporto, Portugal, where he remained until 1861. He returned to the United States and participated in the Civil War. Soon after its end, he was appointed consul to Mauritius, where he arrived in January 1867. During his five years in Mauritius, Pike collected a remarkable range of material that would go into his great book, *Sub-Tropical Rambles in the Land of the Aphanapteryx. Personal Experiences, Adventures, and Wanderings in and Around The Island of Mauritius*. The book, 509 pages long, is encyclopedic in its coverage of Mauritian history, society, and culture. Of particular importance is his interest in natural history. Mauritian geology, volcanic peaks, lakes and waterfalls, caves, and coastal islands are all closely observed. Many details were gathered on a walk he took around the entire coastline of the country. He climbed Mauritian peaks, intensely studied the shoreline and coral reefs, and observed flora and fauna as have few others, before or since. His rendering of Port Louis during the malaria epidemic of 1867–1868, when as many as 200 people a day were dying and "fever, fever, was the only word on every lip...funeral trains were met at every corner...[and] song and laughter had ceased," provided a grim reminder of the despair an epidemic could bring.[12] This book can still be read with great profit by anyone interested in Mauritius.

Less well known than *Sub-Tropical Rambles* is the remarkable work Pike did to catalog Mauritian fish. Throughout his years in Mauritius, he sent over 300 fish specimens to the Museum of Comparative Zoology, headed by Louis Agassiz at Harvard University. Together with his wife, he made detailed drawings to size of nearly 500 Mauritian fish, done in colored ink, pencil, and watercolor. These were accompanied by detailed descriptions and notes. In 1904, Pike sold the drawings to the famous American financier, J. P. Morgan, who gave them to the American Museum of Natural History.

It is hard not to marvel at Pike's many accomplishments. In five years, living in an isolated setting that was new to him, he handled the work of the consul's office, published eight

The harbor of Port Louis, Mauritius. From Matthew C. Perry, *Narrative of the Expedition of an American Squadron to the China Sea and Japan...* (Washington, DC: Beverley Tucker, Senate Printer, 1856), Vol. 1, 108.

Nicolas Pike with his natural history collection. From Nicolas Pike, *Sub-Tropical Rambles in the Land of the Aphanapteryx* (New York: Harper & Brothers Publishers, 1873), frontispiece.

articles in the *Transactions of the Royal Society of Arts and Sciences of Mauritius* (including an important one on a trip to the Seychelles with the English Governor, Sir Arthur Gordon), wrote a comprehensive book on Mauritius, and assembled his fish specimens and drawings. He also claimed in his preface to *Sub-Tropical Rambles* to have a second book on the flora and fauna "nearly completed," but no such manuscript has ever been found. Pike returned to the United States after his Mauritius tour and lived an active life, largely in New York, until his death in 1905.

Over the years, a number of famous Americans made their way to Mauritius, if only for a few days or weeks. Their subsequent reports about the island vary from cursory remarks on the weather and the local ambience to more extended efforts to convey some sense of Mauritian history and culture. In the nineteenth century, their work fed a seemingly inexhaustible US hunger for travel and adventure books, and, at the very least, gave Americans brief snapshots of life in a little known island.[13]

One such trader was Richard J. Cleveland, born in 1773. At the age of fourteen, he began working for Elias Hasket Derby, a leading shipowner and merchant from the port of Salem, Massachusetts. At this time, Salem merchants commanded a superb fleet of trading vessels, and they were the first American shipowners to go around the Cape of Good Hope to Mauritius and beyond. Derby's ship, the *Grand Turk*, was the first New England ship to reach Mauritius in April 1786.[14]

Cleveland spent four years in Derby's counting house, gaining a thorough knowledge of merchant shipping. He first went to sea at age eighteen, and by the time he was 24, he was a captain and shipowner. In his wonderful book, *Voyages and Commercial Enterprises of the Sons of New England*, Cleveland related that in more than twenty-five years of constant traveling:

> *I have navigated to all parts of the world, from the sixtieth degree of south latitude, to the sixtieth degree north...I have been exposed to the influence of the*

most unhealthy places...I have suffered captivity, robbery, imprisonment, ruin... and yet, through the whole, I have never taken a drop of spirituous liquor of any kind; never a glass of wine, of porter, ale, or beer, or...used tobacco in any way whatever.[15]

During this most adventuresome and abstemious life, Cleveland visited Mauritius four times on two separate voyages. In the ship *Benjamin*, under Captain Nathaniel Silsbee, he was in Mauritius from June to November, 1793 and again in March to April, 1794 on a trip that lasted nineteenth months overall. On his second trip to Mauritius, he left from Le Havre, France, in December 1797, on a voyage that would eventually take him to the Cape of Good Hope, Batavia, China, the Northern Pacific and the Northwest Coast of North America, Malacca, and Calcutta. This time, he was in Mauritius May to June 1799 and from July 1799 to March 1800. His trip ended in a Danish port in June 1800, forty-two months after leaving Le Havre.

The long stretches of time Cleveland spent in Mauritius were almost entirely due to the political conflicts of the day.[16] In 1793, the *Benjamin* was embargoed for several months while the Mauritian authorities waited to hear whether America was taking England's side in the war against France. The embargo was lifted and the *Benjamin* allowed to leave only when French passengers arrived on another ship and confirmed America's neutrality. While waiting to leave Mauritius, Cleveland noted that "there is probably no place in the world surpassing Port North-West, now so called, for the destructive power of the ship's worm. On going into the hold of the ship, when empty, I was astonished at the noise they made; not unlike a multitude of borers with augers."[17]

In 1799–1800, during a ten-month stay in Mauritius, Cleveland was caught up in the Quasi-War between France and the United States. For a time, the Mauritian Colonial Assembly ordered the seizure of all US ships.[18] During this period, Cleveland met the urbane Governor Malartic and dined at his house, where "there prevailed at table an ease and an entire freedom from restraint, which formed a striking contrast to formality and ceremony I had recently had an opportunity of observing at English tables."[19] Shortly after this dinner, Malartic suddenly died. As a tribute of respect during the funeral, an English blockading squadron dropped its colors to half mast and fired minute guns. Cleveland noted, "such a tribute of respect from an enemy is so magnanimous, that...they will also have their influence in diminishing the asperities and miseries of war."[20]

During this second stay in Mauritius, Cleveland remarked favorably on the agricultural potential of Mauritius, on the fine harbor at Port Louis, and recounted an interesting tale of Mauritian-based privateers inducing Governor Malartic "to commit the ridiculous act of formally declaring war against the United States... for the mere purpose of securing as *good prize* a rich American vessel."[21] He made it clear that the government had no intention of pursuing this conflict once the prize was in hand. Cleveland finally left Mauritius in March 1800 after he joined with another American, William Shaler, in buying the freight for a Danish ship *Cronberg*, which was in fact the British ship *Kent*, renamed after being captured and brought to Mauritius. With good luck and good fortune, they were able to reach Denmark without stopping at the British-held Cape of Good Hope, St. Helena, or Ascension Island, and without being accosted by any British cruisers along the way.

Another American who passed through Mauritius is far more famous in America than in Mauritius. Indeed, it was a surprise to me to discover that Commodore Matthew C. Perry had actually been in Mauritius, for there is no record of his visit in the *Dictionary of Mauritian Biography* or in any Mauritian history with which I am familiar.

Born in 1794, Perry grew up in a naval family.[22] His father was a seaman and his older brother Oliver was the hero of the Battle of Lake Erie during the War of 1812. Matthew Perry joined the Navy in 1809 at the age of fifteen and

The USS *Mississippi*. Commodore Matthew C. Perry's flagship, a sidewheel steam warship. Photo courtesy of the US Naval Historical Center.

essentially spent his entire life in one or another naval occupation. He served during the War of 1812, saw action in the West Indies against pirates, conveyed freed slaves from America to Liberia, and was involved in European activities in Greece, Turkey, Italy, and Russia. He was also an important innovator both with regard to naval equipment and naval strategy, and is sometimes called the father of the steam navy.

As the US became more expansionist and imperialist, Perry played a central military role. In the 1840s, he was the head of the Africa squadron charged with suppressing the slave trade. He commanded the squadron operating on the east coast of Mexico during the Mexican War, and in the 1850s, he obtained his most important command, the one which brought him to Mauritius.

In 1852, Perry was assigned the diplomatic task of negotiating a treaty with Japan to protect American seamen and property in Japan and to open that country to Western influence and trade. To help persuade the Japanese of the seriousness of American intent, he was given command of the East India squadron. An imposing fleet, including several steam driven "black ships", was assembled and departed for the East in November 1852. Perry successfully negotiated the Treaty of Yokohama in March 1854. Finally, he returned to America in January 1855.

On his way eastward, Perry stopped in Mauritius from 18 to 28 February 1853, to recoal; about 500 tons of coal had been shipped in advance from New York to Mauritius to await his ships. In his famous *Narrative of the Expedition of an American Squadron to the China Seas and Japan...*, several pages were devoted to Mauritius.[23] The history and economic development of the island were briefly reviewed, as were the physical and climatic characteristics. Perry remarked, "During the brief stay of the ship at Mauritius the English officials and merchants

exhibited the most profuse hospitality toward the Commodore and his officers, while the French population were no whit behind them in the unostentatious display of their kindness...the only difference was that the Englishman was, perhaps, a little the more stately, and the Frenchman a little the less ceremonious."[24]

As for the rest of the population, his comments reflected racist attitudes of the time. The "free blacks here, as elsewhere, seemed to think emancipation meant an exemption from all labor." As for the Indian population, "municipal laws for the protection and government of the coolies are judicious and sufficiently minute, yet these people pay but little regard to any bargain they make with their employers; they go and come very much as they please, and are tolerated in the exercise of a much larger liberty than is accorded to laboring men in either England or the United States."[25]

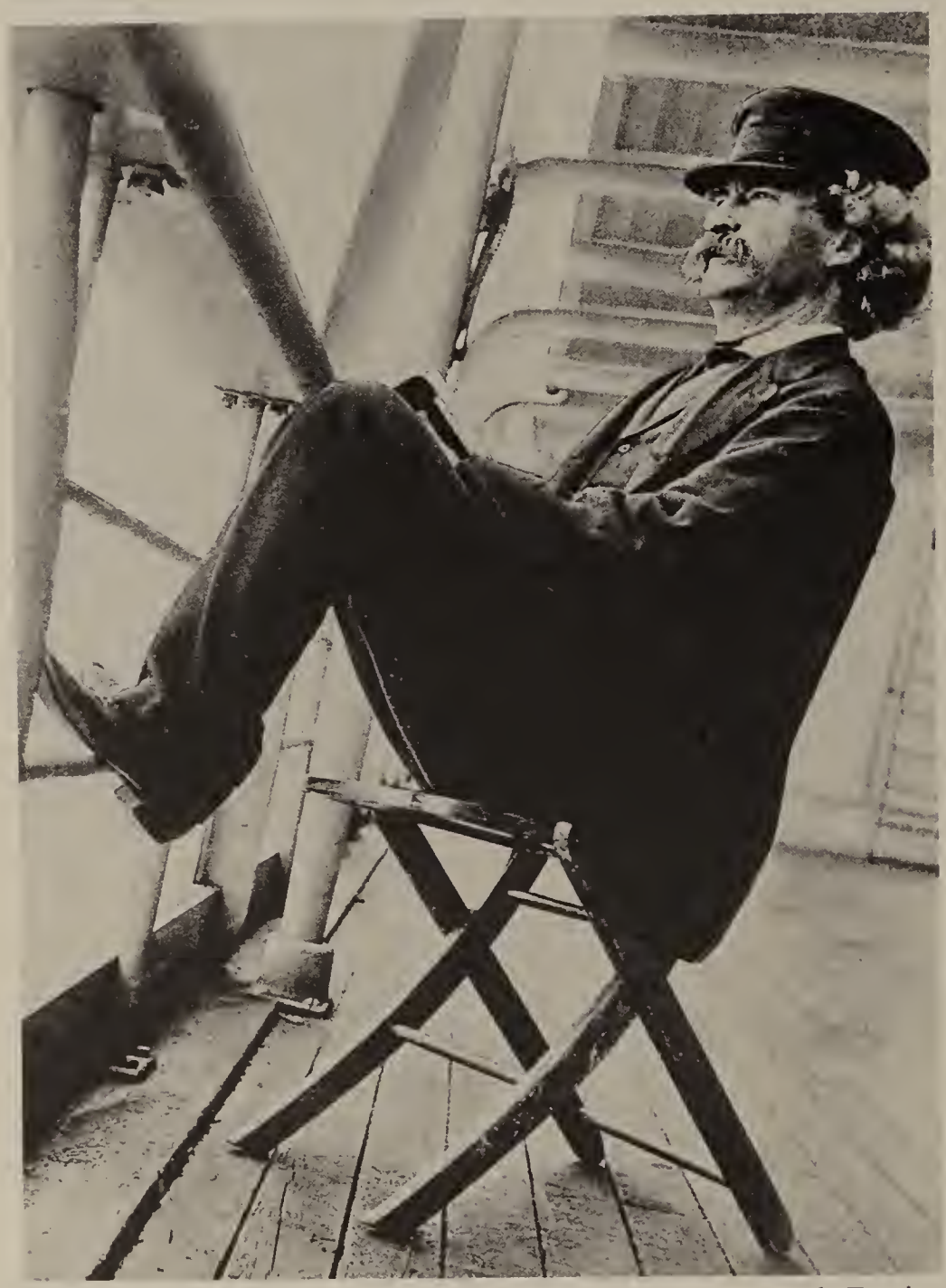
Perry's *Narrative* contains many lovely lithographs, including *Hindoo Costumes, Mauritius* and *Mauritius from the "Pouce"*. There are also excellent drawings of Port Louis harbor and the Port Louis public square. Perry mentioned the romantic story of the Mauritian lovers Paul and Virginia and recounted, with some degree of bemusement, Mauritian efforts to draw tourists to the grave sites of these fictitious individuals.[26]

I want to briefly tell the Mauritian story of a yet another American, C. M. Welles. Though little is known of his life, I have been drawn to him for three rather different reasons. First, he and I are both direct descendants of a famous Puritan settler of Connecticut, Thomas Welles, an original settler of Hartford and a seventeenth-century Governor of Connecticut. Second, he was from Connecticut, a state where I have lived for 25 years. And finally, his story is probably far more representative of the type of American who arrived in nineteenth century Mauritius than those of more well known figures.

C. M. Welles was the author of a quite remarkable book, *Three Years' Wanderings of a Connecticut Yankee...*, from which we get what little we know about his life.[27] At the beginning of the book, he confessed that "a desire to see the world had haunted me for many years...[but] I was no favorite of Fortune, and the 'unconquerable bar of Poverty' ever mocked my progress." Finally, in December 1852, he traveled from Connecticut to New York, where he saw an advertisement for passengers on the ship *Peytona* promising a sixty-day passage from New York to Melbourne, with "all the attention of a first class hotel."[28]

From this point on, the story is all downhill. Welles was promised free passage to Australia if he could find six others to accompany him. He promptly found six similarly adventuresome friends. However, once his friends had paid their passage, the captain abruptly reneged on his promise. Once aboard and away on 9 February 1853, it was soon apparent that the *Peytona* was something less than a first class hotel. Two hundred passengers had been booked into a ship fitted for 150. Stowaways emerged to terrorize their fellow passengers. Fights, cruel practical jokes, and theft of food, water, and personal items occurred regularly. The crew was ill-trained, the captain was a drunk, and Welles described the food as "state-prison fare."[29] Forty-eight days out of New York, the *Peytona* landed in Bahia, Brazil, where they remained a month before departing for Cape Town. After a few days in Cape Town at the beginning of July, they set sail again and arrived in Mauritius on 16 August 1853 — passengers and ship in terrible shape.

Welles spent twelve days in Mauritius before leaving in the brig *Nautilus*, heading for Melbourne with a cargo of sugar. He described himself and his fellow passengers as looking "like prison birds, with our negligent sea clothes, and despairing expressions." He was impressed greatly with the extraordinary generosity of Mauritians who brought food and fruit to the destitute and hungry passengers. He described his arrival as "a transition from purgatory to paradise," and he "luxuriated in the unbounded supply of fresh water." He described Port Louis as being "filled with all the luxury and magnificence of the tropics" and was much taken



Mark Twain (Samuel L. Clemens) aboard ship. From Mark Twain, *Following the Equator: A Journey Around the World* (Hartford, CT: American Publishing, 1897), frontispiece.

with the climate, scenery, and markets. Witnessing a Malabar funeral through his Western eyes left Welles bemoaning "miserable superstition." He described Malabar women with ornaments in their ears, nostrils, arms, and ankles as looking like "walking jewelry shops."[30] He also visited a cemetery, and his book includes a full page engraving of the *Grave of Harriet Newell, Isle of France*. The wife of an American missionary, Newell died in Mauritius on the way home from India.

Welles' youthful adventure took him to many other parts of the world before returning to Connecticut. From 1857 to 1859, he was listed in the Hartford City Directory as a book agent. His book was published that year. He disappeared from Hartford records thereafter and nothing further is known about his life.

Certainly, the most famous American ever to visit Mauritius was humorist and novelist Samuel Clemens, better known as Mark Twain. Born in Hannibal, Missouri, and raised along the banks of the Mississippi River, Twain is perhaps the most celebrated of all American writers. The author of many short stories and novels, including such renowned works as *The Adventures of Huckleberry Finn* and *The Adventures of Tom Sawyer*, Twain was also an inveterate traveler and a very accomplished travel writer and lecturer. His books *Roughing It*, set in the American West, and *The Innocents Abroad*, describing the travels of Americans through Europe, did much to establish his comic voice, often described as humorous autobiography.

The circumstances that brought Twain to Mauritius were typical of his entire life. He lived at a hectic pace, not just due to his voluminous writings, but also due to his travels, various business ventures, and family. In the 1890s, he sank much of his fortune into the development of a typesetting machine and a publishing firm. Both failed, and he was forced to declare bankruptcy. In a desperate effort to pay off his debts, Twain and his wife set off in July 1895 on what he called in his autobiography, a "lecturing raid around the world."[31]

On a trip that would take thirteen months, Twain would visit, *inter alia*, Hawaii, New

Zealand, Australia, India, Ceylon, South Africa, and, of course, Mauritius. He turned sixty during this trip, was afflicted with carbuncles while traveling, and was exhausted by its end. Upon his return to England, where he was then living, he was immediately confronted by the tragic death of one of his daughters. Despite these various personal hardships, he quickly turned to writing his book about the trip.

The resulting book, entitled *Following the Equator* in America and *More Tramps Abroad* in Europe, was the last of Twain's travel books and among the most successful.[32] Published at the end of 1897, it was 712 pages long; the American edition is filled with 193 marvelous illustrations. It sold rapidly. Within a year, he was completely out of debt.

Twain spent two weeks in Mauritius from 15 to 28 April 1896. He commented widely, acerbically, and at times very astutely on what he saw.[33] The line used so commonly in modern Mauritian tourist literature — "Mauritius was made first, and then heaven" — is drawn from Twain. Referring to the Paul and Virginia legend, he remarked, "there has been only one prominent event in the history of Mauritius, and that one didn't happen." He was quite taken with the local heat and humidity, and commented, "this is the only place in the world where *no* breed of matches can stand the damp. Only one match in 16 will light."

Twain was entranced with the beauty of Mauritius, its "ragged luxuriance of tropic vegetation" and the "quaint and picturesque groups of toy peaks, [including] a dainty little vest-pocket Matterhorn." He described Mauritius as "a garden and a park combined...[where] the surfaces of one's spiritual deeps are pleasantly played upon, the deeps themselves are not reached, not stirred."

It is, however, his social and political comments that are most interesting. He described Port Louis as "a little town, but with the largest variety of nationalities and complexions we have encountered yet." He wrote that the island was under French control, "which means a community which depends upon quarantines, not sanitation, for its health." Near the end of his stay, he commented on the thrifty nature of the Indian community and wrote quite prophetically: "These thrifty coolies are said to be acquiring land a trifle at a time, and cultivating it; and may own the island by and by." And with that idea, sixty years ahead of its time, Twain was off to South Africa.

Joshua Slocum aboard the *Spray*. Photo courtesy of the Peabody Essex Museum, Salem, MA.

Joshua Slocum is the final American traveler that I want to briefly mention. Slocum was the first person to singlehandedly circumnavigate the globe in an astonishing feat of seamanship that took from 24 April 1895 to 3 July 1898, the entire voyage covering over 46,000 miles.

Slocum was born in Nova Scotia in 1844. His ancestors immigrated from England to Massachusetts in the seventeenth century, but left for Nova Scotia after siding with Britain during the American War of Independence.[34] Ancestors from both sides of his family had been seamen. He wrote that "the wonderful sea charmed me from the first."[35] He left home at sixteen to join a British ship, but was soon in the United States working out of San Francisco. By twenty-five, he had become a naturalized American citizen and a sea captain taking trans-Pacific voyages out of California. During the next twenty years, he engaged in trade throughout the world until the *Aquidneck*, the last merchant vessel he captained, was wrecked in 1887 on a Brazilian sandbar.

With the age of commercial sailing all but over and unable to find a new command, Slocum turned to writing. His first book, *Voyage of the Liberdade*, published in 1890, chronicled his 5,500 mile passage from Brazil to the United States in the *Liberdade*, a small boat (he called it a canoe) that he designed and built in order to get home. Two years later, a whaling captain friend led him to the decrepit nine-ton, 37' sloop *Spray* in the pasture of a Massachusetts harbor town. During the next thirteen months, he completely rebuilt and refurbished the *Spray* — the boat that would take him around the world — for the total cost of $553.62.[36]

Slocum was 51 years old when he began the historic trip that would fully test his love of adventure, his acceptance of solitude, and his lifetime of experience in handling small boats. He was nearly two and one-half years into the trip when he spent eight days in Rodrigues in September 1897 and five weeks in Mauritius, 19 September–26 October 1897.[37]

Slocum had been alone at sea over two months when he arrived in Rodrigues, which he called the "Land of Promise" and the "land of napkins and cut glass." Just prior to his arrival, the local priest had warned his parishioners about the coming of the Antichrist, and one of Slocum's immediate tasks was to dispel local fears about who he was! Slocum was warmly received by the resident magistrate, Mr. Roberts, visited throughout the island, and stocked the *Spray* with beef, sweet potatoes, and pomegranates. Three days after leaving Rodrigues, he arrived in Mauritius where he spent five weeks refitting and waiting for better weather.

In Mauritius, Slocum was feted and became much the object of local attention and gossip. He lectured about his trip at the Port Louis Theatre with the Governor, Sir Charles Bruce, the Mayor of Port Louis, C. E. Thomy Pitot, the American Consul, General John P. Campbell, and 300 others in attendance. He visited the Governor at Reduit, had a new plant named after him at the flower conservatory near Moka, and became the talk of the town when he took seven young women for a sail on *Spray* and had to put in for the night at Tombeau Bay when it got too late to return to Port Louis harbor. He commented that "no ship ever had a fairer crew." Slocum left Mauritius on 26 October 1897.

Sailing Alone Around the World, published in 1900, would become one of the great classics of seafaring literature. For the rest of his life, he lived on his royalties and lecture fees. He also continued long distance singlehanded sailing, until he mysteriously disappeared at sea in 1909 after leaving New England heading for South America. No trace was ever found of him or *Spray*.

When the American consulate at Mauritius was closed in 1911, it was as much an afterthought as a statement. American commercial trade with Mauritius had peaked before 1810. Thereafter, American ships intermittently brought in such diversified products as lumber, mules, guano, railroad iron, petroleum, coal, and ice in exchange for sugar and other tropical products. In addition, American whaling ships made over 1,350 voyages to the Indian Ocean in the nineteenth century, but the peak whaling years were in the 1840s.[38]

Mauritius — a tiny outpost in the vast British Empire — drew little American attention.

It took the changing political configuration of the post-World War II world to finally draw Mauritius and the United States together again. Mauritius, like other parts of the colonial world, generated a nationalist movement for independence, which was achieved on 12 March 1968. In anticipation of Mauritian independence, the United States reopened its long closed consulate in 1967, which became an embassy with Mauritian independence.

Over the past twenty-eight years, United States–Mauritian relations have generally been amicable. Historically, Mauritian ties are far closer to France and England than to the United States. This has not prevented the US from maintaining a constant diplomatic presence, providing aid, and seeking expanded trade ties. The US supports the commitment to a free enterprise economy and democratic political system, wants to see Mauritius succeed, and sees itself as having a special affinity with Mauritius, in that both nations have been built by peoples of diverse cultural backgrounds.

Since Mauritian independence, the United States has maintained a variety of economic ties. Particularly in the 1970s and 1980s, development aid was given both bilaterally and through contributions to multilateral agencies. Given Mauritius's rapid economic growth in the last decade, however, bilateral aid is being phased out, and the new emphasis is on US trade and investment opportunities.

The United States has traded regularly with Mauritius since independence. The trend has been one of considerable expansion. Mauritian exports to the US have grown from $36 million in 1984 to $235 million in 1993. This latest figure represents 18% of total exports, and makes the US Mauritius' third largest customer.[39] For its part, US exports are far more modest, leaving a considerable trade imbalance.[40] From 1984 to 1993, US exports grew from $8.6 million to $40 million, but this represents only 2.3% of Mauritian imported goods. Two products dominate American imports from Mauritius — sugar and textiles. Each product enters the US under complex quota systems that serve to constrain an even more rapid rise in the growth of Mauritian exports.

Mauritian sugar is marketed under the terms of the US Sugar Act. During the early years of independence, the quota was set at 26,000 tons. This amount was reduced when the Sugar Act was revised in 1982, and Mauritius was allocated a fixed 1.2% share of US sugar imports. The actual amount varies annually depending upon the import quota set for that year. During the last eleven years, the quota has been as low as 9,559 tons and as high as 42,443 tons; the average is about 18,000 tons per year, or 3% of an average Mauritian annual crop of 600,000 tons.

The surge in Mauritian exports largely features textiles manufactured in the Export Processing Zone (EPZ). Textiles enter the US under complex quota arrangements affecting more than thirty textile categories. More careful monitoring of these product quotas has allowed Mauritius to increase the US share of EPZ exports to approximately 25%. In addition, Mauritius is trying to broaden its sales into such categories as jewelry, optical goods, greeting cards, carnival masks, and cut flowers.

For its part, the US has sought to increase its exports to Mauritius, where it ranks fifteenth. US exports mainly are machinery and equipment; the US is particularly looking for Mauritius to begin buying wheat. American investors and traders are given support by the Export-Import Bank, the Overseas Private Investment Corporation, and the Trade and Development Agency. Distance and the small size of the Mauritian market, however, serve as a permanent constraint on US export and investment initiatives.

Future trading patterns between the two countries are likely to be conditioned by changes agreed to under the recently completed trade agreement, in which GATT gives way to the newly established World Trade Organization. Tariffs, import quotas, and export subsidies are all supposed to be reduced, leading toward the phasing out of textile quotas. Similarly, there are

supposed to be slow reductions in the price support programs underlying agricultural products. When Prime Minister Jugnauth visited Washington in June 1991, President Bush applauded the Mauritian commitment to "free enterprise and free government."[41] This commitment will sustain US interest in Mauritian economic development, even as new trade legislation will challenge Mauritius' ability to compete in the global economy in a setting where protected markets are slowly reduced.

Political relations between the US and Mauritius have generally been cordial. The two countries share concerns about democracy, human rights, the environment, and many other matters. During his June 1991 visit, Prime Minister Jugnauth commented that he and President Bush "talked about international problems and discussed bilateral issues... [but] there aren't any problems. Relations are excellent."[42] For his part, Bush praised the fact that "pluralism flourishes in a free and open multiparty system" in Mauritius, but he also "stressed the tremendous value to Mauritius...of the American military presence in the region."

Bush's last remark alluded to the importance the US placed on having Diego Garcia as an asset in the context of the just completed Gulf War. From the point of view of Mauritius, his remark pointed to the one long running issue that has divided the two countries — the question of Diego Garcia, a V-shaped island of approximately 10.5 square miles, part of the Chagos archipelago, lying 1,200 miles northeast of Mauritius.[43] During the British colonial period, the Chagos were administered from and considered part of Mauritius. The Diego Garcia problem originated during independence negotiations in 1965, when Britain made it clear that Mauritian independence was contingent upon the sale of the Chagos and the transfer of its sovereignty to Britain. This was agreed to by the Mauritian negotiating team, which included Sir Seewoosagur Ramgoolam, Sir Aneerood Jugnauth, Sir Satcam Boolell, and Sir Gaetan Duval.

Once the agreement was in place, the British government leased Diego Garcia to the United States for a fifty-year period running to 2016 with a twenty-year extension available if neither the US nor the UK opposes continuation. In turn, the US steadily developed Diego Garcia from what was initially proposed as an austere naval communication station to what has become a major logistics support base for units operating in the Indian Ocean. Between fifteen to twenty fully loaded ships are prepositioned there, and an airfield capable of handling B-52s has been constructed. During the 1991 Gulf War, US supplies from Diego Garcia were among the first to get to the Gulf, and Iraq was bombed by B-52s flying from the island.

Two concerns have dominated the Diego Garcia discussion since 1965: the issue of sovereignty over the archipelago and concern about the treatment of the Ilois (the islanders) removed to Mauritius so that the base could be built. Legally, both of these issues are really between Britain and Mauritius, since Mauritius accepted the transfer of sovereignty and was paid £3 million in development assistance in compensation. Since 1965, the British government has maintained its right to sole sovereignty, and states that the Chagos would be returned only if it were determined that the need for the facilities disappeared. The US has similarly insisted that Mauritian concerns must be dealt with through Britain, but, in practice, has not been able to entirely avoid the debate.

From 1965 onward, the United Nations and the nonaligned movement regularly expressed discontent over the excision of the Chagos from Mauritius. In the 1970s, there was considerable Congressional criticism in the US when it was revealed that the Ilois had been secretly removed from Diego Garcia to make way for base construction. However, concerns about Diego Garcia were rarely voiced in Mauritius between 1968 and 1982, the years Sir Seewoosagur Ramgoolam was Prime Minister. The *Mouvement Militant Mauricien* (MMM), as it neared power in the early 1980s, finally put the issue on the front burner of Mauritian politics. The organization struck a more aggressive posture over Diego Garcia at the same time the

US grew very worried about political-military developments in the Indian Ocean region.[44] The MMM's more nonaligned statements, demands upon Britain to return the Chagos to Mauritian sovereignty, and threats to take the Diego Garcia issue to the World Court led the US to support Ramgoolam's unsuccessful efforts to remain in power.

Since 1982, the MMM and various later governments led by Sir Aneerood Jugnauth have all been more rhetorically demanding than Ramgoolam was over Diego Garcia. Mauritius has sought to have the Chagos returned to its sovereignty. Barring this, it has asked that Diego Garcia remain nuclear free. At nonaligned UN meetings, within the British Commonwealth and in bilateral discussions, Mauritius has repeatedly pressed the issue. Slowly, the United States has responded to its concerns. In recent years, Mauritians have been allowed to work on Diego Garcia, where they had long been barred, and Mauritius now regularly provides supplies for the base. The US will not publicly declare whether Diego Garcia is nuclear free, but the sharp draw down of nuclear deployments with the end of the Cold War makes this highly likely.

By far, the most interesting development, however, was a two-day visit to Diego Garcia in May 1994 by a high level delegation that included US Ambassador to Mauritius Leslie Alexander, British High Commissioner to Mauritius John C. Harrison, Mauritian Minister for External Affairs Swalay Kasenally, Mauritian Secretary for Foreign Affairs Ambassador Vijay Makham, Mauritian Minister for Fisheries and Marine Resources Mathieu Lacle, and others. This was the first Mauritian ministerial visit to Diego Garcia since 1965. The trip was widely seen as a confidence-building measure among the three governments and hinted at greater UK–US willingness to consider local concerns. Ambassador Alexander's subsequent comment that "Diego Garcia won't be a major irritant in our bilateral relations. Our survival does not depend on Diego Garcia. If we've got to go, we'll go" was certainly the most suggestive remark ever made by an American diplomat about US willingness to eventually forego Diego Garcia.[45] As we look toward the third century of diplomatic and economic ties between the United States and Mauritius, as well as toward the twenty-first century, there is no reason to be anything but positive about this relationship. On core issues of mutual interest — democracy and a respect for political pluralism, commitment to development within a free market economy, social tolerance and a respect for human rights — both countries stand side by side. Differences seem to be comfortably manageable within a dialogue that is open and ongoing.

On 10 July 1881, the American consul, Thomas T. Prentis ended a report to Washington with the following comment: "I cannot close this report without recording my deep sense of the kindness and courtesy which have been extended to me since my arrival at Mauritius.... On every side I have met with the greatest willingness to afford one such information as needed and every assistance as it was in their power to render."[46] In my own numerous trips to Mauritius more than a century later, I found similar help and kindness in abundance. The many Mauritians who have visited my university over the years have seen the same openness reciprocated from the American side. This interest in one another and a shared positive outlook gives me the greatest confidence that the strong friendship of these two countries will continue well into the future.

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Notes

1. Prior to 1810, the island was called Cerne by the Portuguese, Mauritius by the Dutch, and Ile de France by the French. The British reintroduced the name Mauritius when they captured the island from the French in 1810. I have used the modern name throughout to avoid confusion. Details on Macarty's appointment, as well as much other information on American ties with Mauritius up to 1810, is provided in A. Toussaint, ed., *Early American Trade with Mauritius* (Port Louis: Esclapon, 1954).
2. Telling the story of American consuls in Mauritius would be impossible without access to eight rolls of microfilm, *Despatches from U.S. Consuls in Port Louis, Mauritius, Mascarene Islands, Indian Ocean, 1794–1805, 1817–1906*, M462 (Wilmington, DE: National Archives Microfilm Publications). Two more general sources are: Charles Stuart Kennedy, *The American Consul: A History of the United States Consular Service, 1776–1914* (Westport, CT: Greenwood Press, 1990), especially chapter 9, "Consular Operations in Africa, Asia and the Pacific (1790–1860)", 101–126; Briton Cooper Busch, *"Whaling Will Never Do For Me": The American Whaleman in the Nineteenth Century* (Lexington, KY: University Press of Kentucky, 1994), especially chapter 5, "Whalemen and American Consuls Abroad," 62–86.
3. *Despatches*, rolls 3 and 4.
4. *Despatches*, roll 8.
5. Busch, *"Whaling Will Never Do For Me"*, 62. The forthcoming discussion draws heavily on pages 62–86.
6. Letter of 25 August 1832, *Despatches*, roll 1.
7. C. M. Welles, *Three Years' Wanderings of a Connecticut Yankee in South America, Africa, Australia, and California, with Descriptions of the several countries, manners, customs and conditions of the people, including miners, natives, etc. also, a detailed account of A Voyage Around the World, attended with unusual suffering, hardship, privation, disappointment, and dangers arising from fearful storms; threatened wrecks on rocky coasts, and amid reefs; by fire, deception, mutiny, etc., also, Various Incidents of Life on Shipboard.* (New York: American Subscription Publishing House, 1859), 161. The story of the *Peytona* is told in numerous letters from the consul, George W. Farnum, to the State Department from August–December 1853. See *Despatches*, roll 2.
8. Busch, *"Whaling Will Never Do For Me"*, 84.
9. My remarks about Pike are drawn from the information found in the *Dictionary of Mauritian Biography*, 151–152; Derek Hollingworth, *They Came to Mauritius: Portraits of the Eighteenth and Nineteenth Centuries* (London: Oxford University Press, 1965), 137–147; E. W. Gudger, "Nicolas Pike and his Unpublished Paintings of the Fishes of Mauritius, Western Indian Ocean, with an Index to the Fishes, *Bulletin of the American Museum of Natural History* Vol. 58, article IX (7 September 1929), 489–530. Pike's own book on Mauritius is entitled, *Sub-Tropical Rambles in the Land of the Aphanapteryx. Personal Experiences, Adventures, and Wanderings in and around the Island of Mauritius* (New York: Harper & Brothers, 1873).
10. Pike letter of 10 February 1871 to the Secretary of State, *Despatches*, roll 5.
11. Busch, *"Whaling Will Never Do For Me"*, 76. The famous nineteenth-century American novelist, Herman Melville, author of *Moby Dick*, was also a passionate foe of flogging; see his novel, *White Jacket; or, The World in a Man-of-War*, initially published in 1848.
12. Pike, *Sub-Tropical Rambles*, 105.
13. There is a significant critical literature that addresses the ideology, cultural relativism, and political impact of travel writing. See, for example: David Spurr, *The Rhetoric of Empire: Colonial Discourse in Journalism, Travel Writing and Imperial Administration* (Durham: Duke University Press, 1993) and Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London and New York: Routledge, 1992). I am grateful to my colleague Jerry Phillips for bringing this literature to my attention.
14. The *Grand Turk* proceeded from Mauritius to China and was one of the first American ships to reach that country; the entire voyage lasted from 3 December 1785 to 22 May 1787. See Robert E. Peabody, *The Log of the Grand Turk* (Boston: Houghton Mifflin, 1926), *passim.*, 57–62, 68–73, 105–113 are on Mauritius. The two main sources on American trade with Mauritius between the voyage of the *Grand Turk* and 1810 are: Alfred W. Crosby, Jr., "American Trade with Mauritius in the Age of the French Revolution and Napoleon," *American Neptune*, Vol. 25, No. 1 (January 1965), 5–17; Toussaint, *Early American Trade*. Information on Cleveland is drawn from Walter Teller, ed., *Five Sea Captains: Their Own Accounts of Voyages Under Sail* (New York: Athenaeum, 1960), 207–211; *Dictionary of American Biography*, Vol. 4, (New York: Charles Scribner's Sons, 1930), 204–205.
15. Richard J. Cleveland, *Voyages and Commercial Enterprises of the Sons of New England* (New York: Leavitt & Allen, 1855), 11–12.
16. A concise review of this rather complicated period is given by A. Toussaint, "Franconesia, A Little Known Quarter of the Indian Ocean," *American Neptune*, Vol. 31, No. 2 (April 1971), 109–113. A longer and more detailed account of the maritime history of Mauritius is A. Toussaint, *La Route des Îles. Contribution a l'histoire maritime des Mascareignes* (Paris: S.E.V.P.E.N., 1967).
17. Cleveland, *Voyages and Commercial Enterprises*, 31. Port North-West was the eighteenth century name for what we now know as Port Louis.
18. On the 1799–1800 period, see Toussaint, *Early*

American Trade, 10–12. Toussaint is confused on Cleveland himself, putting him first in Mauritius in 1772, the year before he was born, and being a year too late on Cleveland's long stay in Mauritius.

19. Cleveland, *Voyages and Commercial Enterprises*, 129. Cleveland had just arrived from Calcutta.
20. Cleveland, *Voyages and Commercial Enterprises*, 134.
21. Cleveland, *Voyages and Commercial Enterprises*, 143.
22. The biographical data on Perry's life is drawn from the *Dictionary of American Biography*, Vol. 14, 486–489.
23. Matthew Calbraith Perry, *Narrative of the Expedition of an American Squadron to the China Seas and Japan, performed in the Years 1852, 1853, and 1854, under the command of Commodore M. C. Perry, United States Navy, by order of the Government of the United States*. Compiled from the original notes and journals of Commodore Perry and his officers, at his request, and under his supervision, by Francis L. Hawks (Washington: Beverley Tucker, Senate Printer, 1856), 3 volumes. The material on Mauritius is entirely in Volume 1.
24. *Narrative*, Vol. 1, 111.
25. *Narrative*, Vol. 1, 109.
26. Jacques Henri Bernardin de Saint-Pierre, *Paul et Virginie* (1788). Set in Mauritius, the heroine of the novel, Virginie, dies tragically in a shipwreck that actually occurred in Mauritius in 1744. What Perry saw was a tourist attraction, established by an enterprising Mauritian, where visitors were asked to pay one shilling to visit the 'tomb' of these fictional lovers. See Samuel Eliot Morison, *"Old Bruin" Commodore Matthew Calbraith Perry* (Boston: Little, Brown, 1967), 292.
27. See footnote 7.
28. Welles, *Three Years' Wanderings*, 10–12.
29. Welles, *Three Years' Wanderings*, 18–84 details the traumatic circumstances of the first 48 days passage from New York to Bahia.
30. The Mauritian portion of his trip is recounted in Welles, *Three Years' Wanderings*, 160– 171. That an island becomes paradise is a common motif in carly travel literature, hardly surprising given the often hellish conditions aboard ship. Similarly, descriptions of the exotic abound in such writing. But as David Spurr remarks in *The Rhetoric of Empire* (51), "the overall effect is to homogenize the Western experience of the Third World, to neutralize the disturbing aspects of social reality, and to minimize the importance of power in creating the conditions under which people live. This is the buried ideology that makes possible the popular aesthetic of consumption in travel journalism."
31. Samuel Langhorne Clemens, *The Autobiography of Mark Twain*, arranged and edited by Charles Neider (New York: Harper and Row, 1959), 263–264.
32. A careful consideration of *Following the Equator* and of Twain's personal circumstances and point of view while writing it can be found in Richard Bridgman, *Traveling in Mark Twain* (Berkeley: University of California Press, 1987), 121–145.
33. All the quotes from Twain are taken from *Following the Equator: A Journey Around the World* (Hartford, CT: American Publishing, 1897), 617–629.
34. Information on Slocum's life is drawn from Walter Teller, ed., *Five Sea Captains*, 355– 359; and Derek Hollingworth, *They Came to Mauritius: Portraits of the Eighteenth and Nineteenth Centuries* (London: Oxford University Press, 1965), 163–171.
35. Captain Joshua Slocum, *Sailing Alone Around the World* (New York: Century Co., 1900), 2.
36. Slocum's intense effort to rebuild the *Spray* is recounted in *Sailing Alone*, 5–10.
37. For Slocum's experience in Rodrigues and Mauritius see, *Sailing Alone*, 222–232. All quotes about the two islands are drawn from these pages.
38. With respect to American whaling in the Indian Ocean, see Phoebe Wray and Kenneth R. Martin, "Historical Whaling Records from the Western Indian Ocean," in Michael F. Tilman and Gregory P. Donovan, *Special Issue on Historical Whaling Records* (Cambridge: International Whaling Commission, 1983), 213–241. I only know of two books by American whalers that give significant descriptions of Mauritius. They are William B. Whitecar, *Four Years Aboard the Whaleship Embracing Cruises in the Pacific, Atlantic, Indian, and Antarctic Oceans in the Years 1855, '6, '7, '8, '9* (Philadelphia: J. B. Lippincott, 1860). Whitecar was in Mauritius in 1857 and 42 pages of the book concern his time there; Charles Nordhoff, *Whaling and Fishing* (Cincinnati: Moore, Wilstach, Kemp, 1856). This whaling classic is unusual in that the whaling takes place entirely in the Indian Ocean; 34 pages are on Mauritius.
39. For current economic data, I am indebted to detailed materials supplied me by the US Embassy in Port Louis on 2 December 1994, and to other information supplied by Sherri Sprigg and David Dunn at the US State Department on 11 November 1994.
40. This imbalance is about where things stood in 1879. In that year, the US purchased 170,000 rupees worth of sugar while Mauritius imported 26,948 rupees worth of US goods — mostly petroleum and salted beef, but also six rupees worth of fireworks and three rupees worth of salt! *Despatches*, roll 7.
41. This and later remarks by President Bush were made upon the departure from Washington of Prime Minister Jugnauth on 5 June 1991, *US Department of State Dispatch* (26 August 1991), 637.
42. *Washington Times* (9 June 1991).
43. This discussion of Diego Garcia is substantially drawn from my book where I have reviewed the controversy in detail. See *Mauritius: Democracy and Development in the Indian Ocean* (Boulder, CO: Westview Press, 1991), 157–161. By far the best Mauritian source on the issue is *Report of the Select Committee on the Excision of the Chagos Archipelago* (Port Louis: Government Printer, 1983).
44. Indian Ocean regional developments including the

late-1970s war in the Horn of Africa, the fall of the Shah of Iran, the Soviet invasion of Afghanistan, and the global oil crisis of 1979–1980, among others, are perhaps best surveyed in William L. Dowdy and Russell B. Trood, eds., *The Indian Ocean: Perspectives on a Strategic Arena* (Durham: Duke University Press, 1985).

45. *L'Express* (Port Louis), 29 May 1994. In this long interview Ambassador Alexander clearly underlined the good relations that exist between the US and Mauritius.
46. *Despatches*, Roll 7.

Communication

Recovery of the Crosshead Engine of the Steamboat *Columbus*

DAVID C. HOLLY

The dramatic resurrection in 1992–93 of important components of an old steamboat engine built in 1828 and salvaged from the depths of Chesapeake Bay, where it had rested for 143 years, has brought poignantly to life the early days of steamboating on the Bay. The components were those of a crosshead engine, a type that propelled sidewheelers on the Chesapeake from the 1820s through the 1840s. This was a period of transition from the earliest engines in the United States, such as the one bought by Robert Fulton in England to power the *North River Steamboat* (popularly known as the *Clermont*), to the vertical (walking) beam engines that became the hallmark of steamers on the Eastern inland waters, including the Chesapeake.

The crosshead engine recovered in 1992–93 astonished marine historians everywhere. It was the only one of its type known to exist. Its importance could not be overestimated. Named for the T-bar slashing up and down across the top deck, with a piston rod from the vertical cylinder below driving it in its path, and with flailing rods on either side, connected to cranks, turning the paddle wheels port and starboard. Observers often termed it a "guillotine" engine. Rugged and massive, it propelled steamboats for many years.

The discovery itself came as a stroke of luck. In surveying for the 50' channel to be dredged for deep-draft ships bound for Baltimore, the US Army Corps of Engineers found in its path off the mouth of the Potomac River a number of metal objects protruding from the bottom which potentially menaced the project. Divers, exploring these objects nearly 60' below the surface in almost total darkness, returned to the command ship with the opinion that an old steamboat lay on the bottom, with parts of its engine resting on top of the hull. Federal injunction required that a preliminary archaeological survey be conducted before demolition or dredging could proceed. Promptly, the survey assumed historical importance.

Expertise was needed. The Corps engaged Dr. R. Christopher Goodwin and his team of archaeological divers to explore and study the wreck, together with Michael Pohuski, professional photographer and archaeological diver, to produce a documentary film of the project. Also, the Corps gathered an impressive array of heavy equipment (floating derrick, tugs, barges, and diving vessels) and trained Army personnel for the undertaking. All of the equipment was carefully positioned over the site, nine miles offshore from Point Lookout. The mission was direct: to identify the wreck and attempt to salvage the engine, if the findings merited the expenditure of effort and investment.

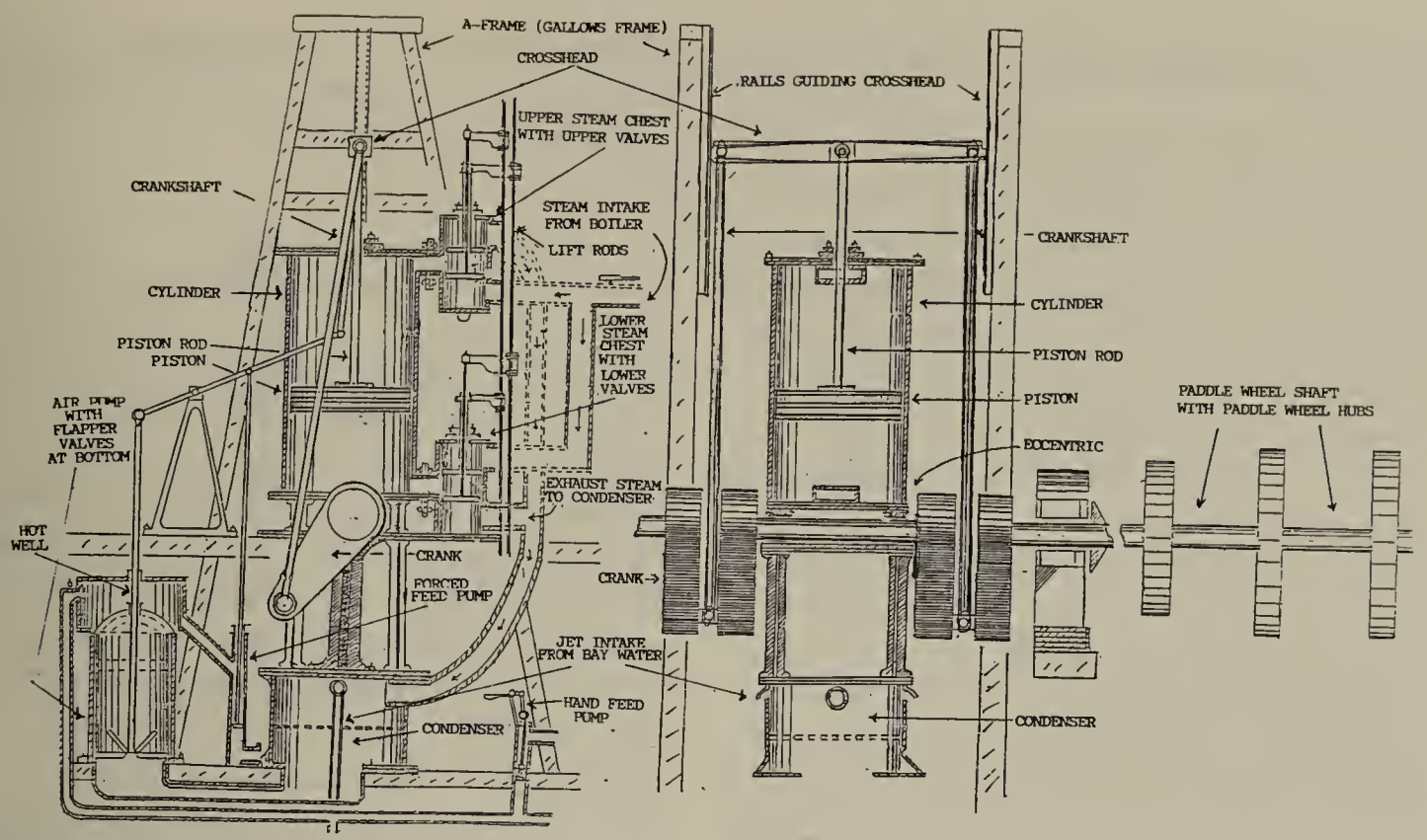
Operations encountered a succession of troubles. Divers groped about in nearly total darkness, locating one another and surveying the relic by hand contact. It was difficult to attach

Artifacts of the 1828 crosshead engine of the steamer *Columbus*. To the left is the pedestal showing the position where the steam chests were mounted, the paddle wheel shaft beneath, and a crank on one side. Beyond is the cylinder, showing the break and the laminated piston inside. Photo by the author. Courtesy of the US Army Corps of Engineers.

hoisting gear to the heavy, bulky engine parts in their half-buried condition, especially considering the fragility of the artifacts after a century and a half of submergence. Turbulent, nasty weather built up suddenly in the roughest and widest part of the Bay. The project was plagued by equipment failures and major logistical problems. It was postponed again and again, and the heavy equipment was towed off each winter to await the return of spring.

In spite of these setbacks, the teams were able to identify the wreck. Eliminating other sunken steamboats in the area by their measurements, technical data, and presumed location, the archaeologists were able to pinpoint one steamer that matched the measurements they obtained from the wreck with enrollment data on file in the National Archives. By hand-over-hand measurement and the driving of stakes, they determined the length of the nearly submerged hull to be 174', the beam 30'. The cylinder lying across the hull measured 50" in diameter, with a piston stroke of 78". This corresponded precisely with the enrollment data for the steamboat *Columbus*. Marine historians could scarcely believe the tidings. Aboard the wreck were the remains of the only crosshead engine known to exist, a vital link in the industrial maritime history of the country.

Columbus, built in Baltimore in 1828 for the Maryland and Virginia Steamboat Company, steamed for twenty-two years between Baltimore, Norfolk, and Richmond. Designed as a freight carrier, she nevertheless boasted mahogany paneled, carpeted, and comfortable cabins and staterooms for a limited number of passengers. Very little disturbed her tranquility. She ran aground once with over one hundred Richmond excursionists on board, who were marooned overnight to await higher tide. She fought gales, ice, and fog in the thousands of mile she traveled. She had her share of lovers,



Schematic diagram of crosshead engine extrapolated from artifacts of steamboat *Columbus* and applied to sketch of Tregold, 1838. Author's drawing.

hawkers, parsons, planters, and gamblers as passengers. She survived the bankruptcy of her owners and transfer to the Baltimore Steam Packet Company (later, the Old Bay Line) and eventually to its subsidiary, the Powhatan Line.

The steamer's crosshead engine was the proud product of the renowned engine builder, Charles Reeder, who had installed the crosshead engine in *Chesapeake* (1813), the first steamboat on the Bay, and who had equipped a string of steamboats with similar engines before completing the one for *Columbus*. That the engine was described as smooth and quiet on trial runs was a tribute to his genius.

Disaster struck *Columbus* on Thursday, 28 December 1850 at 3:00 a.m. Proceeding south in the off season with only one paying passenger — whose six horses constituted the cargo — and one non-paying indigent passenger, she stood in a blustery, cold wind off Smith Point, opposite the Potomac mouth. Suddenly, the fireroom exploded in a burst of flames, engulfing a deckhand, pursuing a fireman up the ladder, and igniting the woodpile. An experimental spark arrestor in the smokestack had malfunctioned. Almost immediately, the dry wood of the deckhouse caught fire, fanned by the wind. Captain Hollingshead turned the vessel downwind, but the superstructure was swept with flames.

Nine people lost their lives, including the master, the mate and his much beloved nine-year-old son, the non-paying passenger, and several crew members. The six horses died. Seven people managed to launch a lifeboat and rowed through frigid and choppy seas to Smith Point Lightship, where they watched the burning hulk drift about and finally sink in the mid-morning.

Salvage operations by the Corps of Engineers and archaeologists began in earnest in 1991, but the first success did not come until 26 August 1992, when the derrick lifted one of the paddle wheel shafts from the depths to the waiting barge. Fall and winter weather intervened. On 20 May 1993 and succeeding days came the final triumph. First the engine condenser, then the cylinder (broken from handling but exposing the laminated piston and rod inside), the air pump, both the upper and lower steam chests, the rocking bar, and — finally — the huge supporting pedestal. The artifacts rested on a barge in Curtis Creek, Baltimore, where archaeologists, engineers, historians, and various other professionals

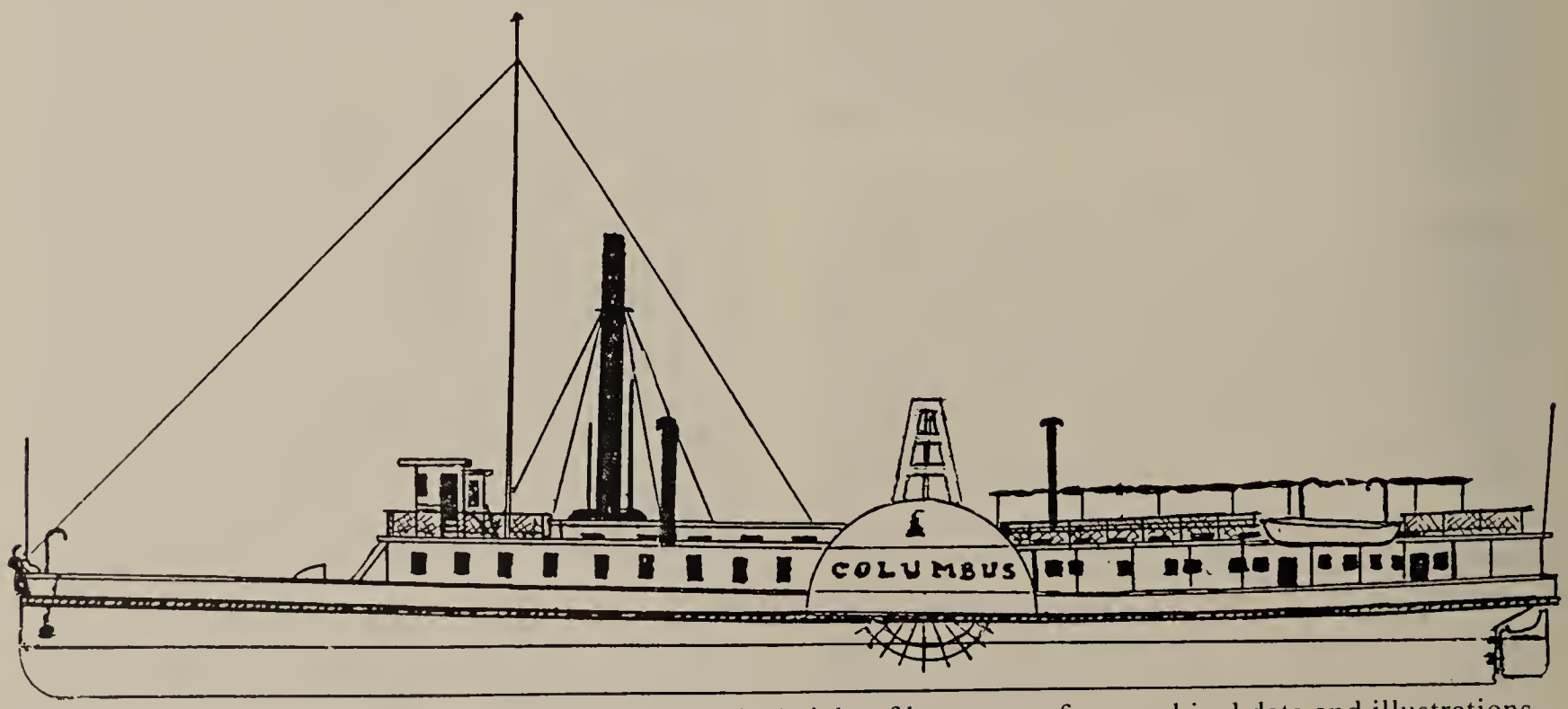
swarmed aboard to measure, analyze, and assess the findings.

Impressive these engine parts were, most of them weighing tons — but so fragile that the surface concretion could be pulled off by hand. Exposed to view were the piston (with fiber still visible between the lamination needed to fill the gap between piston and cylinder wall), scoring of the cylinder wall (where even Charles Reeder's skill could not machine the parts to clearances sufficient to hold the pressure without extensive packing), and the piston rod protruding through the top of the 7' cylinder and showing its connection to the crosshead itself. Missing from the artifacts were the parts that provided the linkage between the valve system in the steam chests and the means of controlling the engine for manual or automatic operation. The mystery of this linkage is locked in the debris remaining at the bottom of the Bay.

The artifacts were given lengthy electrolytic treatment in a laboratory in New Orleans. They were donated by the Corps of Engineers to the Maryland Historical Trust (a major contributor of the project) for exhibition near Harborplace, Baltimore.

The recovery of the engine, a testimonial to the courage, skill, and perseverance of the Corps of Engineers and the archaeologists involved, stands as an important contribution to the saga of marine steam propulsion.

David C. Holly is a retired naval officer and professor at American University and Hampred–Sydney College, and is the author of several books, including Steamboat on the Chesapeake: *Emma Giles* and the Tolchester Line *(Centreville, MD: Tidewater, 1987), which contains a detailed study of steamboat engines;* Tidewater by Steamboat: A Saga of the Chesapeake *(Baltimore: John Hopkins, 1991);* Chesapeake Steamboats: Vanished Fleet *(Centreville: Tidewater, 1994), which contains a complete narrative of the steamboat* Columbus *and a detailed analysis of the crosshead engine in an appendix; and* Exodus 1947 *(Annapolis: US Naval Institute Press, 1995), a narrative of the Old Bay Line steamer* President Warfield *and her exploits as the actual* Exodus *ship running the British blockade into Palestine.*



Steamboat *Columbus* as she might have appeared at the height of her career, from archival data and illustrations of comparable steamboats of the same period. Author's drawing.

News

New Guide to Map Collections

The Library of Congress has recently published an illustrated guide to its cartographic collections, consisting of 4.25 million maps, 53,000 atlases, 300 globes and other geographic materials. The 84-page volume, entitled *Library of Congress Geography and Maps: An Illustrated Guide*, is available from the US Government Printing Office by phone at (202) 783-3238.

John Carter Brown Fellowships

Applications for 1997–98 John Carter Brown Library research fellowships are being accepted until January 15, 1997. The library will award approximately fifteen research fellowships to utilize the library's collections related to the history of the Western Hemisphere during the colonial period, emphasizing the European discovery, exploration, settlement, and development of the Americas, the indigenous response to the European conquest, and all aspects of European relations with the New World. Short-term fellowships are available for a period of two to four months. Long-term fellowships are available for five months. For further information and an application, contact the library at (401) 863-2725.

International Conference on the Impact of Steam

The University of Hull announces a conference to be held September 9 to 12, 1996, entitled *Steam at Sea: The Application of Steam Power in the Maritime World*. The conference theme focuses on the application of steam power during the nineteenth and twentieth centuries. For more information, contact David J. Starkey, Department of History, University of Hull, Hull, HU6 7RX, United Kingdom.

Greenwich Wins Lottery Grant

Thanks to a recently announced grant of £11.8 million from the National Heritage Memorial Fund the National Maritime Museum has embarked on the largest development project in its history, with a complete renovation of the main gallery complex. The museum will present its new face to the world by July 1999 with a huge array of new display galleries, a covered courtyard, and improved visitor services.

Naval Academy Ship Model Exhibit

The United States Naval Academy Ship Model Society, in conjunction with the Naval Academy Museum, is considering holding a retrospective of the ship modeling career of Capt. E. Armitage McCann. McCann wrote a series of articles on model building for *Popular Science Monthly* between 1926 and 1938, which helped provide impetus for the introduction of the ship model "kit" into the marketplace. The society is interested in hearing from anyone who has a model built from McCann's plans, copies of his articles, or copies of the drawings that were sold separately. Correspondence should be directed to the US Naval Academy Museum, 118 Maryland Avenue, Annapolis, MD 21401-5034, Attention: Mr. Robert Sumrall, Curator of Ship Models.

Chris-Craft on Line

The Mariners' Museum has put a Chris-Craft

home page on the World Wide Web. Visitors will find vintage photographs and information about the Chris-Craft Industries archives, housed in the museum's library. Address of the site is **www.chris-crafts.org/chris-crafts.**

Naval Dockyards Society

The inaugural meeting of the Naval Dockyards Society was held at the National Maritime Museum, Greenwich, England, on 14 September 1996. To be informed of future activities, please contact Ann Coats, MA, c/o The National Maritime Museum, Greenwich, London, SE 109 NF, United Kingdom.

Models of the Swedish Warship *Vasa*

The *Vasa* Museum in Stockholm is looking for models of the warship *Vasa*, in connection with an exhibition to be held from October 1997 through April 1998. There are no restrictions on size, material, or interpretation. Please contact the *Vasa* Museum, Viveca Lindenstrand, Box 27131, S-102 52 Stockholm, Sweden. Telephone: + 46-8-666-48-00. Fax: + 46-8-666-48-88. Final date for entries is January 1997.

Congratulations to Paul F. Johnston Winner of Great Lakes History Prize

The American Neptune warmly congratulates Dr. Paul F. Johnston, Curator of Maritime History for the National Museum of American History, Smithsonian Institute, on his being awarded the Great Lakes History Prize. This prize committee considered his article "Downbound: The History of the Great Lakes Propeller *Indiana*" to be an outstanding piece of research on an important subject which contributes substantially to our understanding of the maritime history of the Great Lakes. *The Neptune* is honored to have been able to publish Dr. Johnston's fine work in Volume 55, No. 4.

Book Reviews

ASHIN DAS GUPTA, *Merchants of Maritime India, 1500–1800* (Brookfield, VT: Variorum, 1994), x + 314 pages, 6" x 9", cloth, 1 map. ISBN 0-860-78-432-0. $89.95.

Ashin Das Gupta is one of those responsible for the acceptance of Indian maritime history as integral to Indian historiography and as a vital component of global oceanic history. This book, a collection of his writings, amply demonstrates the significance of his contribution. The articles span more than three decades, 1960 to 1991, and exhibit a keen ability to encompass and integrate the details of ocean-borne commerce, revealed in archival research, with critical issues concerning the role and broad significance of this commerce for the history of India.

The three centuries Das Gupta has chosen as his period have had immense significance for India and its national identity. These are the years in which Europeans appeared in the Indian Ocean and began to trade at Indian ports. The period began with the arrival of the Portuguese and ended with the political ascendency of the British. Das Gupta's central thesis is that in the sixteenth and seventeenth centuries, Indian merchants, led by Mughal nobility and Gujarati Muslim shipowners and supported by Hindu shore-based merchants, were the most important players in India's overseas trade. Indian textile manufactures were the leading commodity in the trade which also included spices as well as staples like rice and pulses.

Wealthy ship-owning merchants and nobles dominated the long distance trade, while merchants of more limited means traded along the coast of the subcontinent in their smaller vessels or took passage on larger ships with their goods to trade, for example, in the ports of the Red Sea. Cities such as Surat, the leading port of the Mughal empire from 1550 to 1750, were created by this trade. These ports were outposts of the Mughal empire, or of states like Bijapur and Vijayanagar, nearly all of which were agrarian in orientation with very limited interest in ocean-borne trade (with rare exceptions like the kingdom of Travancore on the Malabar coast). Notwithstanding the activities of nobles as shipowners or investors, these powerful states did little to control the seas or the trade (apart from collecting taxes). None maintained a navy.

For the past thirty years, Ashin Das Gupta has mined European, especially Dutch, archives to reveal the role of Indian ports and merchants in the commerce of this period. He has done so mindful of the severe limitations of the sources available to historians. There are virtually no records of the period extant in India. Researchers must rely almost entirely on the archives of European trading companies, which are subject to all the distortions and biases of their concerns and attitudes. Occasionally within this corpus, treasures appear, such as a diary of an Indian merchant, for example, that of the Parsi Rustamji Manakji, written in 1711 at Surat.

Despite this considerable handicap, Das Gupta's own research, which he integrates with the findings of colleagues, establishes in fine detail the central role of Indian ports and merchants in the commerce of the Indian Ocean during this 300-year period. From the early sixteenth century until the latter part of the eighteenth century, Europeans were just another group of traders in the Indian Ocean — Das Gupta calls them "partners" in the trade — with no ascendant status or dominance. Indian, Arab, and European ships and merchants were all participants in a trade whose basic structure, he argues, remained in place for thee centuries. His point, in opposition to some of his colleagues, is that competition with the European trading companies did not precipitate the late eighteenth century decline of Indian distance shipping and trading. Just as the ups and downs of the period from 1500 to 1800 were due to the rising and falling of land-based empires in Persia, China,

and, of course, India, so the precipitous decline of Indian-owned shipping and big merchants came only after the British had gained substantial political control of the subcontinent.

Das Gupta's determination to unearth Indian perspectives on this trade led him to focus on the merchants of Surat, whose world he has succeeded in portraying in remarkable depth. His research, centered on the Mughal port of Surat, artfully establishes a nuanced portrait of Surat, its merchants, and its trade from the sixteenth to the eighteenth century. He relates the dealings of wealthy merchants, their relations with each other and with the city, and he sketches the business of petty merchants and the Mughal nobility. Having done all this, Das Gupta displays an admirable ability to integrate his own research with that of his colleagues in order to approach the larger issues of Indian Ocean commerce in the period preceding the political ascendency of the British.

Despite the value of this volume as a collection of Das Gupta's work, the book itself is disappointing — poorly produced, poorly edited, and frightfully expensive. I confess being delighted when asked for a review — I had been struggling for months with an unwillingness to spend $90, even on a book I wanted very much to have. The publisher, Variorum, should be embarrassed by the quality of its product in relation to its price. The articles have not been reset, but merely reproduced with their original pagination. Some pages are difficult to read because of poor reproduction. There should be a comprehensive index; the one provided is puny. Three decades of significant scholarly contribution deserve, indeed require, a proper introduction, either by the author or an editor. One can only wish that an Indian publisher, who could have produced a better book at a much lower price, had taken on this project. Sadly, many of the scholars who would like to have a copy of Das Gupta's collection, especially those in India, where $90 is a small fortune, will be unwilling to pay the price.

SUSAN S. BEAN

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ROBIN KNOX-JOHNSTON, *Cape Horn: A Maritime History* (London: Hodder & Stoughton, 1994). 240 pages, maps, appendix, glossary, index. ISBN 0-340-41527-4. $32.00.

Strictly speaking, Cape Horn has no history. Nobody lives on the tiny, isolated island where it is located and very few people have ever landed there or done anything of real consequence on its bleak and windswept coast. In fact, only a handful of the sailors who have doubled old Cape Skiff ever even saw it, thanks to the rain squalls, fogs, and general murk that prevail in that part of the world. Consequently, the "history" of Cape Horn is really the history of a large region that stretches from the estuary of the Rio de la Plata to the guano ports of Chile and Peru, and includes the Antarctic Peninsula and the Falkland Islands, where many a crippled Cape Horner has taken refuge after losing the battle with the greybeards of Drake's Passage.

Robin Knox-Johnston is uniquely qualified to tell the story of the Cape Horn region, as he has sailed these waters himself during a long career as a yachtsman and professional mariner. From the point of view of a practicing historian, his book breaks little new ground. The story of each major exploit or tale of adventure in which Cape Horn plays some part is well known, from Magellan's passage through the straits that bear his name to the British expedition to recapture the Falklands in 1982. Knox-Johnston's retelling of these epics is rather brief and cursory. The real value of this approach lies in seeing all the stories presented in sequence within one narrative. From this format, one gains an awareness of the different phases of Cape Horn's past. First come the explorers, then the raiders, then the early traders, then the scientific expeditions, then the clipper ships, the downeasters, the great iron and steel windjammers, and finally, the yachtsmen keen to set records and test themselves in the waters that have come to define the ultimate challenge to the skill, endurance, and courage of seafaring men and women. Occasionally, a naval vessel or squadron puts in an appearance. Today, fast container ships are rediscovering the Cape Horn route as an alternative to the expensive transit of the Panama Canal.

Knox-Johnston explains each of these phases accurately and with great economy, interspersing them with anecdotal material that vividly conveys what it must have been like to claw westwards through the complex and dangerous channels in a cranky Elizabethan galleon or see a four-masted bark swept from end-to-end by a huge roller, stripping away deckhouses, capstans and lifeboats. All in all, it makes for a good read and a useful overview, especially for the lay reader.

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RICHARD ELLIS, *Monsters of the Sea* (New York: Alfred Knopf, 1994). xiii + 429 pages, 6½" x 9¼", cloth, illustrations, appendices, bibliography, index. $30.00.

This entertaining and wonderfully illustrated book provides an exhaustive overview of the fantastic creatures of the sea. From the Hydra Hercules engaged in battle to the killer shark of *Jaws*, the reader is treated to the richness of sea monster lore. Most of the material has been published elsewhere, most notably in Bernard Heuvlemans' *In the Wake of the Sea Serpent*, but Ellis brings his own perspective to the study of sea monsters. While Heuvlemans' book is organized chronologically, Ellis devotes a separate chapter to each particular monster. Also, in contrast to Heuvlemans, Ellis claims that before he started his project, he didn't really believe in monsters and for the most part remains skeptical. Instead, the history of monsters has been "surprisingly consistent," with most monsters starting as myths and then acquiring a "corporeal reality as their true existence became known" (page 15). Thus, the mermaid metamorphosed into the manatee, the Leviathan became the whale, and the Kraken is now identified as a giant squid. An underlying theme is to show how even some of the most fantastic descriptions of the past, undoubtedly embellished and exaggerated, make sense in light of present day knowledge of marine life.

The most famous sea monster was technically not a sea monster at all, but inhabited a lake in the highlands of Scotland — the Loch Ness Monster. Since Ellis is primarily interested in "real" monsters, this chapter is rather brief. Just last year, the most famous photograph of Nessie, supposedly taken by physician Kenneth Wilson in 1934, was revealed to be a hoax. Ellis provides a history of the search for Nessie and describes the details of the fraud.

Other monsters described in his study include the Kraken, the Leviathan or whale, the giant squid, the octopus, the mermaid and manatee, the sea serpent and the shark. Also included is a chapter entitled "Blobs and Globsters," which contains some materials I have not encountered elsewhere. These globs appear to be remains of a variety of different organisms. Some appear to be a type of invertebrate, such as a giant octopus, while others appear to be vertebrate remains. Based on amino acid analysis, experts think the St. Augustine "monster" is from a warm blooded animal, while the Bermuda Blob is from a cold blooded animal. Nevertheless, Ellis concludes that many of the blobs and globsters remain shrouded in mystery. He argues convincingly that many of the serpent sightings, *i.e.*, something that looks like a long snake or giant eel, were probably the tentacle of a giant squid. Other "serpents" were eventually identified as basking sharks or oar fish, but Ellis admits that some, like the Gloucester sightings of 1817, eschew definite identification.

The shark, according to Ellis, is the only monster in his study that "retained the name and form with which it insinuated itself into human awareness." Although clearly a real animal, Ellis maintains that it has all the elements that we require of mythological sea monsters: great size, mysterious habits, known attacks on humans, and a history that goes back to the time of the ancients. As with the other "monsters," Ellis is not interested in recounting only the mythology of these creatures; the reader will learn quite a lot about the biology of these animals as well. Ellis has another message for us: we no longer fear monsters, "we fear *for* them." Many of them, such as the whale, several species of shark, and the manatee are endangered species. It appears that the most dangerous monster of the

sea is now *homo sapiens*.

Ellis raises many interesting issues that he has not really adequately addressed. He claims that the new mythology of monsters is essentially a media creation, but this does not really explore why we need to have monsters in our life. Sea monsters continue to capture the imagination of not just a gullible public, but leading scientists as well. In spite of the seeming thoroughness of the book, he has left out some key episodes that are relevant to his theme of disentangling myth from reality. For example, there is no mention of Charles Lyell's (Darwins' close colleague and the most famous geologist of the English speaking world at the time) serious interest in the sea serpent. There are certain errors as well. It was not Alexandre Lesueur, but Louis Agassiz who pointed out that what was identified as a baby sea serpent and given the impressive name of *Scoliophis atlanticus* was only a deformed common black snake.

Ellis is a well known marine life artist, and the book's strength is the many paintings, posters, and drawings he has reproduced from a wide variety of sources. The more popular illustrations were particularly entertaining. It has been almost thirty years since Heuvlemans' book was published. *Monsters of the Sea* does contain new material. The role Hollywood has played in resurrecting the mythology of sea monsters is the latest addition to sea monster lore. Nevertheless, for me, Heuvlemans' book still remains the most detailed and authoritative account on the history of sea serpents.

SHERRIE L. LYONS

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PATRICK A. WILDER, *The Battle of Sackett's Harbor* (Baltimore: Nautical and Aviation Publishing Company of America, 1994). 208 pages, 169 of text, illustrations, index. ISBN 1-877853-27-5. $26.95.

This excellent small book is a highly detailed piece of work that brings together and describes all the facets of the important role played by Sackett's Harbor in the War of 1812 on the Great Lakes. The book's emphasis centers on the important actions that took place there on 28 and 29 May 1813, although the range of events is much broader.

The failure of the American Army to take and hold any part of the Canadian frontier in 1812 and early 1813 made clear to Madison the importance of naval control of Lakes Ontario and Erie. If the US Navy could not control these Lakes, not only was there no prospect of taking any of Canada, but also a strong possibility that the United States would permanently lose territory south of the Lakes to the British. The rapids of the Saint Lawrence River isolated the Lakes and prevented the transfer in from the Atlantic of ships of useful size, which meant that naval control of the Lakes depended on the outcome of a shipbuilding and logistics race.

Sackett's Harbor, New York, a sheltered, defensible embayment at the southeastern corner of Lake Ontario, provided a good site for shipbuilding and was an excellent strategic location for control of the Lakes and the interdiction of water transport to Upper Canada, being close to the entrance of the Saint Lawrence, the jugular of Upper Canada, and only thirty miles from the main British base at Kingston.

In late August 1812, Commodore Isaac Chauncey, USN, was ordered as the senior naval officer on Lakes Ontario and Erie. An excellent organizer and manager, Chauncey immediately started a shipbuilding program. Ship carpenters, sailors, guns, and equipment were brought in from New York and other naval facilities on the Atlantic coast, and the work started. Across the lake at Kingston, the British were also rushing ahead with construction. On 9 April 1913, Chauncey laid the keel of the *General Pike*, which was to measure about 1,000 tons and carry thirty 24-pounders, a vessel larger and more heavily gunned than any the British had or were planning to build. As construction proceeded, canvas and rope for her sails and rigging were brought up from New York and stored nearby.

The British were aware of the *General Pike* and realized that if she was completed before they could build something to counter her, she would rule Lake Ontario, putting Upper Canada

in great jeopardy. After some intelligence gathering, the British and their native allies prepared to attack Sackett's Harbor and destroy the new vessel before she could be launched. Their timing was excellent: Chauncey was away from Sackett's on a brief venture to support Army operations at the west end of the Lake, and had left the remaining naval force in the charge of his younger brother, Lieutenant Wolcott Chauncey, a much less capable and steady officer than Isaac himself. The younger Chauncey's orders were to keep track of British activities at Kingston, and — if attacked at Sackett's — to defend the new unlaunched ship with all possible vigor. The American Army and militia forces had similar instructions.

The British, under Governor General Prevost and Captain Sir James Lucas Yeo, RN, attacked Sackett's Harbor on 28 May 1813, with all the naval and ground forces they could muster. What ensued was one of the most confused, badly led, and botched (on both sides) battles in military history.

When the smoke cleared, the British had retreated and the new ship was saved, but during the chaos, Lieutenant Wolcott Chauncey ordered (or was mistakenly believed to have ordered) the torching of the sheds where the canvas, rope, and equipage for the new ship was stored. This loss delayed the availability of the *General Pike* for several months, allowing the British time to get prepared. The result was that naval control of Lake Ontario remained ambiguous, and American hopes for taking some territory north of the Lakes were frustrated. When the border was negotiated after the war, the line went down the center of Lakes Ontario and Erie.

Patrick Wilder uses a wide ranger of American and British original sources to describe both sides of this struggle, a contest that took place in raw frontier forest, with execrable roads and long supply lines. The outcome of this important contest depended on ragtag groups of American, British, and Canadian militia soldiers and unskilled, untrained sailors, plus a crucial small group of Army and Navy regulars on both sides. There were also the Native allies to the British, who hunted down deserters for a dead-or-alive bounty, and whose very presence often caused American units to surrender without fighting. The leaders on both sides ranged from a few that were brilliant and aggressive, or competent and cool-headed, to a larger number that were cowardly, incompetent, or pig-headed.

Wilder tells the detailed, colorful story of these events, and mixed in with the military events are some wonderful human anecdotes: the antics of the flamboyant and brazen mistress of Master Commandant James Leonard, Isaac Chauncey's second-in-command; the militia company commander who told his men they would probably have to retreat later, but added that he himself was lame and would start now; the poignant story of the eighteen-year-old British ensign whose father was killed in the battle, weeping inconsolably during the return trip to Kingston.

There are some negative items, but they are the fault of the publisher, not the author. There are several notes from the editor to the author that made it into the published book (for example, on page 110, "Author, please check this quotation...ed."). The maps and illustrations are scattered throughout the book, and there is no guide to where they are. On page 152, troops advance from "Pittsburgh", which should be Plattsburg. However, these things can be overlooked. This is good reading and an important book, and it is likely to be the definitive work on Sackett's Harbor for some time to come.

IRA DYE

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SHANNON RYAN, *The Ice Hunters: A History of Newfoundland Sealing to 1914* (St. John's: Breakwater, 1994). xx + 525 pages, photos, maps, appendices, sources. ISBN 1-55081-095-2 (paper). ISBN 1-55081-097-9 (bound). No price given.

This is truly a remarkable book. Its subtitle describes it as history and it is, but it is history in its broadest sense. At one level, it offers a new and intriguing explanation of how and why Newfoundland was transmuted from the summer

base of a transient European fishery to a settled colony and, ultimately, a Dominion of the British Empire. At the same time, it sets Newfoundland ice hunting, *i.e.*, the seal hunt, or the seal "fishery," as it has been traditionally — although illogically — called (perhaps the identification of seals as fish made it easier to stomach) in the broad context of the international market for marine oils. Over and beyond that, the work defines a cultural phenomenon whose social and economic ramifications were, according to Professor Ryan, among the substantial conditions for the very survival of a settled community on a significant portion of the coasts of Newfoundland and Labrador. At still another level, the book is a celebration of ships and men, of an "adventurous and perilous pursuit" that, like no other, formed the ethos of a community. It is also the recounting of that common stock of song and story that tells of heroic deeds, high adventure, inspired leadership, courage in the face of terrible dangers, endurance in the face of unutterable hardships, battles for survival against fearful odds, and, on the darker side, of callous exploitation of men as well as seals, greed and brutality, elemental forces of destruction, tragedy, and death.

Shannon Ryan presents all of this with painstaking attention to the canons of careful scholarship. He begins with a useful introduction that is a judicious summary of Newfoundland history as a context for the emergence and growth of ice hunting which he sees as a *sine qua non* of year-round settlement in many coastal communities. He follows with an excellent summary of the market conditions that encouraged the development of sealing, then presents a chapter devoted to the place of the seal hunt in the general Newfoundland economy.

There follows the heart of the book, four major chapters entitled, respectively: "Vessels and Ports," "Fishermen–Ice Hunters," "Disasters," and "A Sense of Identity." Together, these comprise a veritable mine of information, interpretation, analysis, and lore that should satisfy even the most gargantuan appetite for knowledge of sealing in Newfoundland.

The evolution of sealing from a land based wintertime activity of settled small boat fishers to an enterprise that, at its peak, involved as many as 400 sailing vessels and 1,500 or more hunters, the subsequent decline of this fleet and its replacement by steam power assisted by "wooden walls," is presented in loving detail. Equally well treated is the demise of the "wooden walls" and their replacement by steel steam powered ice breakers, which, though few in number, were more than adequate in the context of rapidly diminishing herds of harp and hooded seals. It is clear, that for Shannon Ryan, the book is a labor of love.

Some small indication of the level of detail provided may be gleaned from the fact that, as the story unfolds, more than 300 individual sealing vessels are identified, as well as a very large number of the more prominent sealing captains and many individual ice hunters, particularly those who were the victims of one or another of the major tragedies that were such frequent concomitants of the hunt. Direct quotations, sometimes at length, from contemporary newspaper sources, preserved anecdotes of great adventure (and misadventure), stories that are legends in the making, *in extenso* quotations from the eulogies of the larger-than-life sealing captains, songs composed in the folk tradition to celebrate or commemorate actions that might be comic or tragic or, perhaps, plainly heroic — all are grist for Professor Ryan's mill. Of course, all are employed to illuminate significant historical themes, including those already noted. Others of significance are the early importance of the ship based sealing industry in Conception Bay and the emergence of St. John's as a strong competitor. Finally, the establishment of a St. John's hegemony became all but total after the triumph of steel and steam, with the assertion by sealers of rights and dignities, and the struggle for improved working and living conditions through the manus, the strike, and other forms of collective action.

To supplement the text, the scholarly apparatus of footnote, appendix, and bibliography are employed to make what would be in any case a substantial meal into a veritable feast. The footnotes, or rather the endnotes, of which there are no fewer than 1,130, provide not only references to sources, but a plethora of associated

facts, often in fascinating detail, that will be a delight to the folklorists and, of course, to the professional historian. Additionally, there are 90 pages of statistical and other data presented in tabular form, a comprehensive bibliography, and a good index.

To one who, like me, grew up on a part of the Newfoundland coast where ice hunting was unknown, it has not always been easy to understand the mystique that clothed the annual trip "to the ice," to comprehend the stature of sealing captains as folk heroes, or to come fully to terms with the mind set of men who set such an inordinately high value on a "berth to the ice." Surely, there were none who did not know of the appalling living and working conditions on sealing vessels, of the constant dangers presented by a combination of sea and running ice in the context of the harsh and unpredictable spring weather off the northeast coast of Newfoundland, of the slim and uncertain rewards for weeks of unremitting toil, no little misery, and fairly constant danger, of the frequency with which even the stoutest of stout vessels were crushed like matchwood in rafting arctic ice floes, of the many of brave sealers whose lives had been the sacrifice demanded by a cruel industry conducted in the harshest of harsh environments.

Having read Professor Ryan's book, I believe I am closer to the answers I seek than I have ever been before. The matter of economic necessity is clearly and unequivocally of very great importance. So, too, is the romance of the hunt, the call to scenes of action where dangers clearly await but where heroes are made, and the compulsion to participate in a sort of tribal rite that confers manhood.

If you have followed me this far, it will be clear to you that I believe this book to be one of some considerable significance: a significance that derives from its contribution to Newfoundland's social and economic historiography. That contribution is, in part, the enunciation of a new hypothesis respecting the establishment of a permanent settlement in Newfoundland and, in part, the detailed treatment of an extremely important area of Newfoundland life and experience that in previous works has been regarded as little more than a sidebar on the main story. As Newfoundlanders, we owe a debt of gratitude to Professor Ryan and, indeed, to professor Cater Andrews, whose longstanding interest in seals and sealers provided a degree of inspiration for this work. Professor Andrews would, I am sure, have appreciated both the dedication and the quality of the finished work. Most Newfoundlanders will, like myself, be equally appreciative of being able to make such a splendid addition to our shelf of Newfoundland studies.

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IAN MCKAY, *The Quest of the Folk: Antimodernism and Cultural Selection in Twentieth-Century Nova Scotia* (Montreal and Kingston: McGill-Queen's University Press, 1994). 371 pages, illustrations, bibliography, index. ISBN 0-7735-1179-2 (cloth). $55.00 Canadian. ISBN 0-7735-1248-9 (paper). $19.95 Canadian.

When my parents first came to visit after my move from Toronto to Nova Scotia ten years ago, they were surprised. On crossing the border from New Brunswick, they passed through rolling dairy land, the old coal fields of Cumberland County, and then the urban sprawl of Halifax and Dartmouth. None of this conformed to their image of Nova Scotia. They expected lobster pots, lighthouses, and fishing villages tucked into a rockbound coast. They expected to see the home of the fishing schooner *Bluenose*. Ian McKay's *The Quest of the Folk* helps to explain the origin of this common misapprehension about the nature of the province and its people.

This brilliant and multifaceted book is, at base, about cultural selection. How is it that a province as varied in population, economy, and topography as Nova Scotia came to be defined by the scattered fishing communities along the south shore between Halifax and Yarmouth? How is it that an industry so thoroughly integrated into the capitalist economy should be portrayed in such simple terms? The culprits are,

according to McKay, a small band of writers, visual artists, and tourist promoters who, beginning in the inter-war period, sought relief from their middle class urban lives and the tensions of modernity. They longed for a simpler time, when people lived and worked in harmony with nature and each other, a time before class, capital, and consumerism. These were the qualities they either isolated from or projected onto the fishing communities of the south shore. "The most salient structuring assumption was that there was within the population a subset of persons set apart, the Folk, characterized by their own distinctive culture and isolated from the modern society around them" (page 9). In short, a group of middle-class cultural producers defined the essence of what it was to be Nova Scotian, and then selected a people to exhibit those qualities.

McKay links the attraction to a pre-modern folk culture in Nova Scotia to the larger movement within the Anglo-American world that used the country, part imagined and part observed, to critique the city and modern life. Emphasis needed to be placed on the work "used," for the idealization of the country and its folk inhabitants was part of a cultural colonization of the rural by the urban. From England's *Greensleeves* countryside to America's Appalachians, writers and artists constructed an image of rural life that emphasized the simple virtues of community and manual labor. In doing so, they invariably emphasized the importance of their own role as interpreters over that of the idealized ordinary people, the dumb repository of the national essence. The folk "were the living and fast eroding walls of a cultural vault full of treasures. The collector held the key, and his or her mission was to rescue the treasure while the walls still held and the customs or songs or craft still 'survived'" (page 23). The ordinary people of the countryside could not be trusted to maintain the cultural essence of the region or nation, and must render up control to those better able to preserve it. Cultural selection is, McKay argues, about power, and in this battle, a diverse people attempting to find a place in the modern world lost to a conservative urban middle class who marginalized them through idealization.

As one may imagine, this throws a revisionist light on those collectors of folk songs, stories, and handicrafts traditionally lionized for their role in preserving Nova Scotia's cultural heritage. Foremost among these is Helen Creighton (1899–1989), a folklorist famous for her collection of traditional ballads, sea shanties, and folk songs, as well as ghost stories and tall tales. She, more than anyone, is responsible for fixing on the fishing communities of the south shore as the repository of Nova Scotia's cultural essence. It was she who discovered "The Nova Scotia Song" (better known as "Farewell to Nova Scotia"), the province's unofficial anthem, as well as many other songs now a permanent part of school curricula and the folk repertoire. In a lengthy chapter of over 100 pages, McKay outlines how Creighton was predisposed by background and training to make the cultural selection she did. He also details the extent to which she consciously and unconsciously ignored or suppressed potentially subversive images of class, gender, and ethnicity. McKay devotes a second lengthy chapter to the less well known career of Mary Black (1895–1988), the province's preeminent craft revivalist, subjecting her to similar analysis.

Readers of this book will probably find McKay's penultimate chapter on the proliferation of the folk motif through a wide range of cultural expressions of greatest interest. Here, he examines the work of such novelists as Frank Parker Day, Thomas Raddall, and Hugh MacLennan, the painter Marsden Hartley, and the photographer Wallace MacAskill. For many, the images of MacAskill remain the mind's eye picture of Nova Scotia's golden age of sail, of the *Bluenose*, Peggy's Cove, and grizzled fishermen. They decorate restaurant and office walls as well as the living rooms and kitchens of many a home. Public buildings and a scholarly symposium are named after Raddall, and Day's novel *Rockbound* (1928) continues to resonate despite the outrage expressed by the island community it purportedly represents. In each instance, McKay's deft analysis connects to the larger issue of resistance to modernism and the urban world.

Ultimately, the parts are greater than the sum. While McKay has already been criticized in

the public press for his revisionist approach to Creighton and Black, his handling of their careers is, on the whole, convincing. This is insufficient, however, to sustain his larger argument. The problems are threefold. First, he exaggerates the cohesiveness and pervasiveness of the folk idea, both within Nova Scotia and the Anglo-American world generally. Everything is subsumed into the quest. Antimodernism has taken many different forms over the course of the twentieth century, and the invention of a folk ideal was not always and everywhere the most influential. Second, he exaggerates the influence of the folk ideal. In part, this is because his account of a few middle class writers and artists is divorced from broader trends in popular culture, such as the advent of radio, movies, and television. It is difficult to know to what extent the public generally bought into the folk ideal at all, or even to what extent those who played a fiddle and sang a ballad did so with any reference to Creighton. This suggests the third problem: McKay falls victim to the same presumption he criticizes in those who went in quest of the folk. He has a fairly clear idea of what the appropriate response of the people should be to modernity, and an even clearer one of what it should not be, liberal.

The Quest of the Folk is not for the faint of heart. One should be prepared to deal with "entropy," "mythomoteur," "*Gemeinschaft*," and a wide range of terms in quotation marks, italics, and various capitalizations. The argument itself is delivered in a repetitive series of hammer blows that can become wearing. It is worth the effort. McKay tackles large issues, employs innovative methodologies, and reaches provocative conclusions. This work will reorient cultural studies in the Maritimes for many years to come.

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Tim H. Baughman, *Before the Heroes Came: Antarctica in the 1890s* (Lincoln, NE and London: University of Nebraska Press, 1994). xi + 160 pages, 2 monochrome illustrations, 4 maps, notes, bibliography, index. 23 x 16 cm, cloth. ISBN 0-8032-1228-3. No price given.

The beginning and end of the period frequently referred to as the "Heroic Age" in Antarctic exploration is somewhat variable and depends on opinions of writers. Unquestionably, the time from the beginning of 1900 to the First World War is included. The decade preceding this had several Norwegian and British whaling reconnaissances (Larsen's two expeditions, Bull aboard *Antarctic*, and the Dundee whalers), and the first two wintering scientific expeditions aboard *Belgica*, 1897–99, and at Cape Adare from 1898–1900. This was the practical introduction of the "Heroic Age." A theoretical one also occurred at the Sixth International Geographical Congress.

Tim Baughman's work examines these initiatory expeditions with particular emphasis on an enigmatic character. Carsten Borchgrevink was an assistant biologist on the 1893–95 Norwegian sealing and whaling exploration (*Antarctic*) and leader of the 1898–1900 British Antarctic Expedition (*Southern Cross*). This period, the 1890s, coincided with the virtual end of the old Antarctic sealing period, and was the beginning of exploration of the continent. Whalers were necessarily exploratory, and, as northern stocks were being reduced, extended their search to the Southern Ocean. Their industry was an entirely new one for the south, which became a major historical period immediately after the "Heroic Age."

Borchgrevink hurried to London immediately. *Antarctic* returned to Melbourne and arrived in time to address the Sixth International Geographical Congress. This Congress became the theoretical one when it passed Resolution Three: *That this congress record its opinion that the exploration of the Antarctic Regions is the greatest piece of geographical exploration still to be undertaken. That in view of the additions to knowledge in almost every branch of science*

which would result from such a scientific exploration the Congress recommends that the scientific societies throughout the world should urge in whatever way seems to them most effective, that this work should be undertaken before the close of the century.

I note that the very doubtful claim of Borchgrevink to have been the "first on the Antarctic continent" is accepted uncritically, and that there are some inaccuracies in the chapters discussing the preceding historical period (which could simply be corrected in a later edition). One thing Baughman rightly comments upon is unchanged — the difficulty of raising funds for Antarctic research is perennial. The particular example of Frederick Cook's virtually unknown attempt to lead an expedition in 1894 is noted. Cook was successful later, but as a member of the *Belgica* expedition. Several other unsuccessful expeditionary plans are also reported, which demonstrate an underestimated aspect of the activities of the "Heroic Age." Baughman correctly reports that the combination of science and commercial gain, although sometimes depreciated, was an important part of the 1890s Antarctic expeditions. In this instance, it is appropriate to recall that far more sealing and whaling vessels have ventured into the Southern Ocean than any engaged on exploration.

Personality conflicts are more common in reality than in the literature of polar exploration. The "empire building" by Sir Clements Markham, some strong national sentiment (partly to promote expeditions), and the introduction of "the interloper" are covered. The description of Borchgrevink's idiosyncratic interdiction of letters and the sad fate of Nicolai Hanson's zoological collections provide other examples. Perhaps the amount and quality of published works may partly explain the comparative neglect of Borchgrevink by many popular histories; as a quote from Louis Bernacci indicates, no "gold nugget" was found. The value of a year of detailed meteorological observations was barely appreciated until quite recent climatic research.

The description of the work of the ten-man winter party at Cape Adare is good. The first use of sledge dogs, driven by two Lapps, was successful and marked the beginning of a century of dogs on the continent. The text indicates the earliest attempts at Antarctic cinematography (often attributed to later expeditions), the first use of kayaks, and explains why the state of knowledge was such that the expedition was armed with many cases of large caliber ammunition (some of which remain at the site of the hut, now a historic monument protected by the Antarctic Treaty). The concluding chapter examines how the 1890s experience was used during the next decade — and demonstrates that some lessons were not learnt "before the heroes came."

The book has good general maps, although some specific ones would also have been useful (Cape Adare, for instance). Chapter notes indicate a wide variety of archival research, a select bibliography is included, and an efficiently organized index is provided. Few illustrations are present — but few were available for that period of Antarctic exploration. I look forward to Tim Baughman's next work describing the subsequent decade, after the heroes arrived.

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GEORGE W. BAER, *One Hundred Years of Sea Power: The U.S. Navy, 1890–1990* (Stanford, CA: Stanford University Press, 1994). 553 pages, no illustrations, no index, no notes. ISBN 0-8047-2273-0. Hardcover $65.00. Paper $24.95

George W. Baer's splendid history of the United States Navy during the century since the publication of Alfred Thayer Mahan's first volume on *The Influence of Sea Power in History* will be recognized as a major contribution to the naval historiography of our day. The first nine chapters of Baer's volume deal with the half century prior to World War II, when Mahan's theory of sea power was accepted without exception by American naval men. Only the Navy's participation in the eighteen months of World War I seemed to contradict Mahan's view that

wars would be won through control of the sea secured in naval battles between rival fleets of battleships. Except for Jutland, that war was regarded as an aberration by officers of the General Board, the Naval War College, the War Plans Division of Operations, and others engaged in planning for the war against Black, Orange, Red-Orange, or a Rainbow of powers. With balanced judgment and an eye for just enough supporting detail, Baer deals briefly and succinctly with a multiplicity of issues such as the distribution of fleets, gunnery reform in the days of Poundstone and Sims, naval arms limitation, the Navy and Congress, and much more that cannot even be listed in a review. Much of this, of course, is well known because most of it has already been studied — and restudied — by naval historians. Baer has drawn from this earlier work what he deems important and has put together a fresh, thoughtful appreciation.

The dominance of Mahan was seriously eroded when, as Baer recounts, the Army, Army Air Force, and the Marines joined with the Navy in a war beyond conception within a single theory. Even more than in World War I, Baer deals with the interplay of personalities and institutions, national rivalries, the significant battles, and global strategies without bogging down in unnecessary detail.

To me, Baer's most important contribution lies in the final six chapters that confront the fact of the Navy after World War II, when the service was no longer recognized as the primary shield of the republic supported by widely accepted Mahanian dogma. The Navy was now obligated to compete for support with the Air Force and the Army for a share of the defense budget. It suffered successive institutional demotions with its inclusion with the Air Force and the Army in the Department of Defense in 1947, the establishment of an all powerful Secretary of Defense in 1949, and the loss of operational control over naval forces by the Chief of Naval Operations as a consequence of the elevation of the Chairman of the Joint Chiefs of Staff to the position of military advisor to the President. Naval men met these and other challenges by providing multiple, less terrifying alternatives to the Air Force's strategy of nuclear Armageddon, by developing its own offensive strategies supported by missile-armed nuclear submarines and super aircraft carriers, and by playing determining roles in the Korean and Vietnam wars as well as numerous lesser engagements. Baer especially commends the defense of the Navy by such Chiefs of Naval Operations as Admirals Arleigh Burke and Forrest Sherman during the Truman and Eisenhower administrations, even as he regrets the high-low mix promoted by Admiral Elmo Zumwalt. Baer concludes with exhilaration as he describes the worldwide aggressive maritime strategy pressed forward by Admirals Thomas Hayward and James Watkins and Secretary of the Navy John Lehman during the decade prior to the end of the Cold War.

It is impossible in a review to do justice to the perception and taste with which George Baer treats the Navy during the last hundred years. Baer's splendid notes are often as rewarding as the text itself. Unfortunately, the Stanford Press did not see fit to append a bibliography, which would have been very useful.

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CHARLES W. KOBURGER, JR., *Franco–American Naval Relations, 1940–1945* (Westport, CT: Praeger, 1994). 155 pages, illustrations, bibliography, appendices, index. ISBN 0-275-94639-8. $55.00.

For those interested in naval events of the Second World War (1939–45), be they serious students of history or more casual readers, Charles W. Koburger, Jr. has provided the most useful service of covering one of the less well known aspects of that struggle, namely, Franco–American relations. Although partly a companion to his earlier book, *The Cyrano Fleet, France and its Navy 1940–42* (New York: Praeger, 1989), this slim volume deals in considerable detail with events in North Africa and, laterally, in the western Mediterranean. It is by no means written from an American perspective alone,

giving full coverage of French views and using French sources. The book has many strengths and adds an extra strand of understanding to the complete tapestry of the war. This volume's main achievement is to provide a detailed development of the operational and administrative activities of French and American forces in European waters from November 1942 to the war's end. Wider strategic matters and operations elsewhere in the world are left largely uncovered, except insofar as they affect US–French relations, such as the fate of French ships in the French West Indies.

Charles W. Koburger, Jr. deals fully with the American landings at Casablanca (Chapter 2), where, although they "came as friends" (page 21), there was fierce and bloody fighting before a general cease-fire in North Africa three days later. The change in French attitudes from shocked hostility through sullen neutrality to grudging assistance, then growing respect and friendship as the war and US–French relations progressed, is well described. It is rather a pity that room is not found in the book for similar treatment of the landings at Algiers and Oran. In Algiers, there was considerable French assistance with the landings of "Operation Torch," whereas the Allies were met with ferocious French resistance in Oran. Chapters 5, 6, and 7, between pages 57 and 102, are particularly effective, covering as they develop the establishment of US bases in North Africa, reconstruction of the French navy and the results of growing US–French cooperation in the prosecution of the war in the western Mediterranean, including the Allied landings in the south of France. The conclusion (Chapter 9) is full of fascinating comment and material important enough to have been developed more fully in the main text of the book. This is especially true of pages 115–117; the questions raised about Admiral Darian's "Paris Protocols" and the decision about "Operation Torch" are central to understanding the reasons for the Allied landings in North Africa.

It is intriguing for a retired Royal Navy officer, now a British academic working at the Royal Navy College, Greenwich, to review a book that in its foreword writes about "false and spiteful British propaganda," accuses British propaganda of giving the French marine "a very bad name" (page 29), and claims that British sources provided the US "only a somewhat distorted view of things as events proved" (page 113). These views may or may not be valid but, without specific evidence and analysis, they become more assertive and detract from the overall merit of the book. Other, mostly small, points need correction. Koburger should distinguish between Ireland (Eire) — which was neutral — and Northern Ireland (page 62). Liberty ships arrived to unload in Cherbourg on 16 July, not 16 June, before the port was freed (page 93). The internal clash between Vichy France and the Gaullist forces that caused considerable problems for Allied planners and decision makers is hinted at on pages 100–101 and could, perhaps, have been developed more fully.

Overall, Charles W. Koburger has produced an interesting and eminently readable book which is a valuable addition to an understanding of the Second World War.

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Carl LaVo, *Back from the Deep: The Strange Story of the Sister Subs Squalus and Sculpin* (Annapolis: Naval Institute Press, 1994). ix + 227 pages, abbreviations, bibliography, index, illustrations. ISBN 1-55750-507-1. $27.95.

Submarines have always been of fascination to naval and non-naval personnel alike. It may be the concept of danger appreciated without being directly experienced, or the intrigue of an existence and interdependence quite foreign to normal life, even in the Navy. In submarines, it is never enough just to know one's job. Everyone's life in the boat absolutely depends on all crew members knowing the basics of every job on board, and on acting without orders in an emergency. There is no coasting to a stop and an embarrassing tow home if things go wrong.

Wrong they did go for the brand new subma-

rine *Squalus* in May 1939, when an air induction valve at the top of the conning tower failed to close when she made her first ocean trial dive. *Squalus* was a fully proven, state-of-the-art designed submarine, and for an ex-submariner, the only frustration with this story is LaVo's omission of any investigation as to why the valve did not close, despite the indication within the boat that it had. A duplicate inboard valve had also been left open because of the nuisance in closing it by hand each time in the highly unlikely event that the outboard valve malfunctioned. In submarine service, the safety factor must always be applied if one wants to live. In the case of *Squalus*, convenience and speed in diving — a measurement of success — overcame the safety margin with fatal results.

The resulting flooding not only drove the boat to the bottom in 240 feet, almost her maximum diving depth, but drowned twenty-six of the crew almost instantly in compartments that flooded before they could be isolated. The story of the raising attempts that failed, and the ultimate rescue of thirty-three by another new and untried invention, the rescue bell, is probably both the best known, at least to submariners, and the most harrowing thirty-nine hours of her life. LaVo makes maximum use of first person narratives in this portion of the story, which gives both an immediacy and realism. The sister submarine *Sculpin* assisted in the search, location, and rescue, and thus their crews became closer companions than was typical for two ships, even sister ships. *Squalus* was raised and refitted for a war already raging across the Atlantic. In 1941, she was renamed *Sailfish* and, with *Sculpin*, was assigned to the Pacific against Japan just before Pearl Harbor.

Both submarines served with distinction in that theater, sinking Japanese freighters and warships. While LaVo covers this period of the two subs' operations, it is not belabored unnecessarily. Then *Sculpin*, during her ninth war patrol off the heavily defended Japanese harbor of Truk, in the Carolina Islands, was sunk by an enemy destroyer on 19 November 1943, with forty-three survivors, one of whom died shortly after. They were taken first to Truk, then transshipped to Japan in the small aircraft carriers *Chuyo* and *Unyo*. In a bizarre twist of fate, and in the midst of a full gale, *Sailfish* torpedoed and sank *Chuyo* with twenty-one of the *Sculpin* survivors aboard. This time, only one *Sculpin* crewman survived, rescued by an attendant destroyer. His companions died in the wild and black seas. Motor Mechanic George Rocek joined the twenty others who had come to Japan in *Unyo*.

The last third of the book tells of the brutal treatment of these twenty-one survivors, most of their almost two years spent laboring in a Japanese copper mine northwest of Tokyo for the rest of the war. Not until the bombing of Nagasaki and Hiroshima did their guards relent, leading to the prisoners' eventual release and repatriation. *Sailfish* survived the war to be decommissioned in the fall of 1945. LaVo also covers the retention of the *Sailfish/Squalus'* conning tower at Portsmouth, New Hampshire, as a memorial to those who died in the original accident and in the loss of *Sculpin*. It is a memorial, as is this story, well earned by the doughty survivors of both boats.

This tale is hardly great history, and LaVo could have benefitted from a closer scrutiny of his text by an experienced submariner, for there are several occasions when the terminology is either in error or at least non-naval. However, it belongs on any bookshelf that contains tales of submarine disasters, rescues, and warfare. It is gripping and well developed, for LaVo has applied his skills as a newsman to the multiplicity of stories contained in the lives of *Squalus* and *Sculpin*.

FRASER M. MCKEE

Markdale, Ontario

BRENDAN WHITING, *Ship of Courage: The Epic Story of HMAS Perth and her Crew (* (Sydney: Allen & Unwin, 1994). 192 pages, maps, illustrations, index. ISBN 1-86373-653-0. $34.95

Fifteen years after the 1918 Armistice, the once-proud Royal Australian Navy had been reduced to a skeleton force of two heavy 8" cruisers — HMA Ships *Australia* and *Canberra*

— the seaplane carrier *Albatross*, and one destroyer. The 1933–1934 Defence Estimates reflected demands for the strengthening of the country's defenses which led to the acquisition of a new light cruiser of the British "Improved Leander" class, which mounted eight 6" guns in four twin turrets. The ship, named HMAS *Sydney*, was soon followed by two others of the same class, both in "as new" condition. *Apollo* was renamed *Hobart*, and *Amphion* became *Perth*. The latter ship's new crew sailed from Australia in May 1939, and on 29 June of that year, HMAS *Perth* was commissioned into the Royal Australian Navy. On board was Chief Petty Officer Electrical Artificer Reginald Paul Whiting, who was responsible for the maintenance of the ship's gyro-compasses.

The outbreak of war in 1939 delayed *Perth*'s return to home waters. The ship did not arrive back in Sydney until March 1940. After several months employed on escort duties in Australian waters, *Perth* was detached to join the Royal Navy's Mediterranean Fleet. In 1941, she engaged in a series of spirited actions in the Eastern Mediterranean, including the Battle of Cape Matapan in March, the evacuation of Greece in April, and the Battle of Crete in May. By then, she was well overdue for a refit, so the return to Sydney in August 1941 was a welcome interlude. She was carrying out post-refit sea trials when the Japanese bombed Pearl Harbor. By now, only forty of the crew who had commissioned *Perth* in 1939, including Chief E. A. Whiting, were in the new ship's company of 682. The balance comprised new recruits, reservists, and men recalled to the Navy from retirement.

Perth, along with *Canberra*, was employed for the remainder of 1941 on convoy escort duties in the Southwest Pacific and Indian Ocean, but was then deployed as a reinforcement for the hard pressed Allied ships in the American, British, Dutch, and Australian (ABDA) Area. This was a joint command established to try and turn back the Japanese rampaging throughout the Dutch East Indies (now Indonesia). The ill assorted fleet suffered from lack of joint doctrine and training, communications, stores, ammunition, and fuel. In a series of lopsided actions with Japanese naval and air forces, the majority of ships was sent to the bottom. Following the Battle of the Java Sea, the United States Navy's heavy cruisers *Houston* and *Perth* were escaping through the Sundra Strait, which separates Java from Sumatra. On the full moonlit night of 28 February 1942, both ships unexpectedly ran into an invasion convoy at the western extremity of Java and were sunk by the powerful Japanese escort, but not before having expended all their ammunition, damaging several enemy ships in the process.

The first indication that there had been any Australian survivors came in June 1942, with a broadcast from an Australian journalist who had been captured. He said merely that the Japanese had picked up about 300 members of *Perth*'s crew. With that, the anxious families had to be content. The next news came in September 1944 from United States Navy submarines patrolling in the South China Sea on interdiction tasks. Following their sinking of a large Japanese freighter, they rescued four of *Perth*'s crew. They were part of a large contingent being transported to the Japanese homeland to work in coal mines and factories. The fate of their shipmates could not be ascertained until the end of the war and the repatriation of the remaining prisoners of war. Chief Petty Officer Whiting was not among them, and it was concluded that he had gone down with his ship.

Almost fifty years after *Perth*'s sinking, Brendan Whiting came across diaries his father had written about the ship's adventures in the Mediterranean. He had been seven years old at the time and remembered little of his father whom, in any case, he had seen only infrequently in the previous two years. Reading these diaries started him on a "voyage of discovery," which led to the decision that his father's story — and the story of all the others who were in the ship — had to be told. This impressive book is the result.

Whiting has not only carried out a meticulous program of research in such records as survive, but, more importantly, he has drawn on the experiences and reminiscences of the survivors of the sinking. The result is a well written account of their ordeal. In the process, Brendan Whiting discovered something of his father, but also gained an understanding of the lives, not

only of men who fight, suffer, and frequently die in war, but those who wait at home. He has succeeded in conveying much of this understanding to us.

There is little lightness in this book, as it tells of somber times, times which we might do well to remember. Of *Perth*'s crew, 353 were lost in action, 4 died ashore, 96 died while prisoners of war, and 229 prisoners returned to Australia in 1945.

BOB NICHOLLS

Balmain, Sydney

WAYMAN C. MULLINS, ED., *1942: "Issues in Doubt," A Symposium of the War in the Pacific* (Austin, TX: Admiral Nimitz Museum and Eakin Press [PO Drawer 90159, Austin, TX 78709-0179], 1994). 310 pages, illustration, index. Foreword by Admiral Thomas Moorer. ISBN 0-89015-968-8. $29.95.

During 1992, the Admiral Nimitz Museum at San Antonio, Texas, hosted a symposium, the theme of which dealt with the first year of the Second World War as it was fought in the Pacific by the United States and Allied nations. The organizers of the symposium chose well in their selection of participants. *1942: "Issues in Doubt"* is a compilation of papers presented by the participants of that symposium. Some of the papers are by veterans of the events of 1941–1942. Others were presented by historians with specialized knowledge on the subjects covered. This collection of papers, prefaced by editor Wayman C. Mullins, places before the reader the tale of the Allied armed forces brought to their knees by the events of Pearl Harbor, the Japanese conquest of the Philippines, the loss of Singapore, and the enemy's almost complete annihilation of Allied seapower in the waters surrounding the East Indies. Following up on these disastrous events are accounts of how, within a few months, the Allies — on the sea, land, and in the air — began to fight their way back on a path which three and a half years later would lead to total victory.

Numbered among the historians who contributed papers are John Costello, Richard S. Frank, Donald Goldstein, Walter Lord, John Lundstrom, Dwight Messimer, Fred Parker, Walt Whitman Rostow, and Paul Stillwell. The papers submitted by contributing veterans — twenty-three in all — run the gamut from analytical overviews involving headquarters operations to human interest accounts dealing with personalized experiences.

One highlight from the academics is Fred Parkers' account of the intercepts made by US Navy codebreakers of Japanese radio traffic, and the internal struggle which the significance of those intercepts provoked in Navy Department circles. Parker's paper will be an enlightenment to anyone with an interest in the inner workings of Navy Department politics in the early 1940s. Another highlight is John Costello's essay on those events leading up to the Battle of Midway. These led to decisions which by the toss of a coin could have meant either victory or strategic ruin for the United States. Donald Goldstein's graphic and well organized description of the fight for New Guinea, which he appropriately entitles ""A Military Nightmare," brings a complex scenario into clear and understandable format.

The enemy's side of the story is well handled by the inclusion of papers submitted by three Japanese veterans, two of them naval officers and the third an infantry warrant officer. The civilian side of the story is covered in a paper written by a former Australian coast watcher, as well as another by a woman who, at age sixteen, hid out in the mountains of the Philippines for six months before finally surrendering to the Japanese. She was then incarcerated at the Santo Tomas civilian internment center in Manila until liberated in 1945.

My one adverse comment on what is otherwise a fine assemblage of material is the lack of source citations within most of the papers. Since the subject matter of many of those papers covers episodes which to date have been largely overlooked by others, this lack of documentation may be disappointing to the serious student. An exception to the paucity of citations is Goldstein's essay on New Guinea, which he meticu-

lously documents, thus giving his paper a particular and outstanding value for other historians.

I have no reservations toward recommending this book as a valuable contribution to the history of the war in the Pacific.

CHARLES DANA GIBSON

Camden, Maine

MICHAEL JOE CARLIN, *Trial: Ordeal of the USS Enterprise 14 January 1969* (Kennett Square, PA: Tuscarora Press, 1993). 256 pages, illustrations, no index, no bibliography. No ISBN or price given.

In *Trial*, Michael Joe Carlin recounts the crippling fire in 1969 aboard the Navy's first nuclear carrier *Enterprise*, working up off Hawaii for a deployment into Vietnamese waters. An accidental explosion on the flight deck set off a chain reaction among aircraft parked nearby, resulting in severe casualties to the ship's company and threatening the carrier's very survival. Carlin dissects the causes for the disaster, then chronicles the heroic damage control measures which saved the ship.

Trial makes no pretension of being a scholarly work in the usual sense of the term. Conventional forms of documentation are lacking; the book contains neither citations nor standard bibliography. However, the author has done his homework. Carlin relies heavily on primary source materials: the pertinent ships' logs, the testimonies of officers and men, the records of the Judge Advocate General, and over forty personal interviews. Carlin himself survived the carrier's ordeal as an active participant in the firefighting efforts.

There is much to recommend *Trial*. Carlin's description of flight operations on a big carrier is clear and exciting. His use of the literary metaphor of the Rider on the Pale Horse, while unusual, is both effective and affecting. The photographs are powerful; the two diagrams, one of the ship's damage control system and the second of the positioning of aircraft on the flight deck on the morning of the accident, provide essential aids in allowing the reader to follow the train of events. Carlin gives a clear and detailed account of the circumstances leading to the initial detonation of a 5" Zuni warhead, overheated by the exhaust of a tow tractor parked too close to an F-4. Nearby aircraft tanked up with jet fuel and laden with ordnance then exploded. By the end of the ordeal, bombs had punched eight holes through the armored deck, allowing blazing fuel to pour deep into the ship.

Carlin then details the efforts by the ship's company to bring the conflagration under control. He believes the decision by the carrier's commanding officer to activate the washdown systems on the flight deck proved an error because it deprived firefighting crews of much of the water pressure they needed for their hoses. He credits the crew of the destroyer *Rogers* with ingenuity and skill when that escort's sailors rigged a fire hose to the forward 5" gun mount, thus allowing the *Rogers* to pump water no matter how hot the fire became. In fact, skillful shiphandling brought the destroyer to within twenty yards of the *Enterprise*, as debris of all sizes rained down from the carrier.

Carlin highlights the crisis aboard the *Enterprise* with the dramatic words of the Air Boss over the ship's loudspeakers to the deck crew: "Let's get back and fight, men, we've got to fight!! We will lose the ship, men!" Through heroic exertion, those sailors managed to hook tractors up to blazing aircraft and pull them from the inferno. The ship was saved, but the human cost was high: 28 dead, 343 injured. Repairs to the carrier took almost two months.

Trial is not without its defects. Some rather elementary grammatical errors escaped the proofreaders, such as the consistent failure to use apostrophes in possessives, pronouns with vague antecedents, and oddities like "co-insiding with the recovery." Other minor irritants are the misspellings of the names of the escort carrier *Liscombe Bay* and the guided missile destroyer *Benjamin Stoddert*.

More significant is Carlin's failure to explain to the lay reader certain key terms, especially "Class Charlie fire." In a similar vein, he omits an excellent opportunity to put the *Enterprise* disaster into context. Although he alludes to two earlier ordnance accidents aboard carriers off

Vietnam, he provides virtually no details of those episodes, both of which were more costly in human lives than the 1969 fire on the *Enterprise*. In 1966, the *Oriskany* suffered a blaze which started in a magnesium flare locker and burned to death 44 men. The *Forrestal* incident of 1967, which killed 134, was quite similar to the *Enterprise* fire in that it, too, was caused by the accidental detonation of a Zuni rocket. Was there anything learned from these previous accidents?

In discussing the investigation into the *Enterprise* disaster, Carlin quotes the recommendation of US Navy experts for improvements in firefighting methods and equipment, but then leaves the reader in limbo as to whether any of these suggestions were put into effect. The same uncertainty applies to proposed changes in the Navy's procedures of handling aircraft on the flight deck.

Overall, *Trial* is a book of great interest. It tells the story of a tragedy with both clinical detail and emotional commitment. That it could have been more had Carlin placed the incident in a broader setting does not vitiate the soundness of the work. Recommended.

MALCOLM MUIR, JR.

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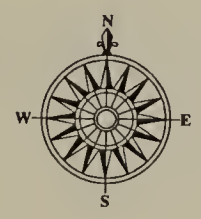

Shorter Notices

LIONEL CASSON, *Ships and Seamanship in the Ancient World* (Baltimore: Johns Hopkins University Press, 1995). 470 pages, illustrations, bibliography, index. Paper. ISBN 0-8018-5130-0. $19.95.

Lionel Casson's standard work, first published by Princeton University Press in 1971, has now been reissued in paper by Johns Hopkins University Press. While the original text is unchanged, even to the preface, scholars and students particularly interested in the ancient world should note that Professor Casson has attached a section of "addenda and corrigenda" (pages 443–470) to the new edition that adds information to and data from nearly a quarter century of archaeological and other research. For example, Casson notes (page 447) that the long-standing debate about how a trireme was raised "has now been settled once and for all" by the work of John Morrison and others. In a perfect world, readers might ask for integration of new data into the body of the text and notes. As it is, the additions are important in keeping this classic book up to date in the biographical sense.

WILLIAM C. FLEETWOOD, JR., *Tidecraft: The Boats of South Carolina, Georgia and Northeastern Florida, 1550–1950* (Tybee Island, GA: WBG Maritime Press [PO Box 178, Tybee Island, GA, 31328], 1995). 356 pages, index, illustrated. ISBN 0-964-2519-0-6. $47.50.

Tidecraft was first published in 1981 in paper edition, a valuable reference volume to the maritime culture of an important but sometimes overlooked part of the country. This new hardcover edition is a complete reworking of the original, often touching on subjects ignored in the earlier publications, such as the Spanish influence. It is an extraordinary book, fully illustrated throughout, which must surely stand now as definitive. Thirteen chapters deal with such subjects as Indian and colonial watercraft, dugouts, schooners, sloops, and so on — not neglecting the plantation and river trades, and bringing the story up to the mid-twentieth century. Separate chapters treat the Revolutionary and Civil War eras. Four appendices by specialists treat areas of their expertise: for example, Gilbert Maggioni, a retired oyster packer and sometime boatbuilder, writes on the "flat-bottom South Carolina oyster sloop." In sum, an essential volume for any comprehensive collection on American watercraft.

COLIN WHITE, ED., *The Nelson Companion* (Annapolis: Naval Institute Press, 1995). xii + 228 pages, illustrations, bibliography, index. ISBN 1-55750-619-1. $32.95.

This book might be dedicated to all those who thought, wrongly, that the last word might have been said on Nelson. Colin White, Chief Curator of the Royal Naval Museum in Portsmouth, has assembled a collection of unusual Nelsonia. White himself writes of the development of the Nelson legend since 1805, while others treat the Nelson portraits (Richard Walker), relics — and the people who owned them (John Munday) — commemorative material (John May and Timothy Millett), worldwide Nelson sites (Tom Pocock), and monuments (Flora Fraser). Felix Pryor deals with "Nelson the Letter-Writer," and Michael Nash advises on "Building a Nelson Library" (but only the "top twenty" biographies). A Nelson chronology and Nelson gazetteer complete the volume, first published in the United Kingdom by Alan Sutton in association with the Royal Naval Museum. Thirteen of the illustrations are in handsome color, including such famous scenes as "Nelson and the polar bear." No Nelson collection is complete without it; after all, where else could one quickly locate a photograph of Nelson's pigtail?

KEITH STEWART THOMPSON, *HMS "Beagle": The Story of Darwin's Ship* (New York: W. W. Norton, 1995). 320 pages, illustrations, index. ISBN 0-393-03778-9. $25.00.

Keith Thompson is a zoologist and paleontologist, former dean of Yale's School of Arts and Sciences, and current president of the Academy of Natural Sciences in Philadelphia. As is obvious from this ship's biography, he also has a strong interest in maritime history. At first sight, the subject seems unpromising: *Beagle* was an undistinguished 90', 10-gun "coffin brig" (although actually she sailed as a bark), several times rebuilt for various purposes down to her last days in 1870 off the English coast as *Watch Vessel 7*. However, Thompson has made an intriguing story of his subject, beginning with a thorough job of research to locate the original plans to which she was built (apparently unknown as such to the staff of the National Maritime Museum in Greenwich). In his energetic and readable discussion of *Beagle*'s subsequent career, he melds naval, social, and scientific history with a good eye for the overall significance of the Darwin-Fitzroy voyages. Altogether a most useful addition to the nineteenth century naval and scientific history.

BRITON C. BUSCH

Colgate University
Hamilton, New York

CLIPPER SHIP "NIGHTINGALE" - GETTING UNDER WEIGH OFF THE BATTERY, NEW YORK
Large Folio Lithograph Published by N. Currier, 1854

WILLIAM ALLEN WALL

(American, 1801-1885)

William Allen Wall
(American, 1801-1885)
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